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CIA/RR Project 6-51: Contribution to NIE-33

THE EUROPEAN SATELLITE POWER COMPLEX

PART I
INDIVIDUAL SATELLITE COUNTRIES: ECONOMIC STRENGTHS AND WEAKNESSES

HUNGARY

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PART I
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HUNGARY

Summary and Conclusions.

The integration of the Hungarian economy in the Soviet Bloc is well-advanced, and Soviet-type controls are applied to the industrial sectors. Industrial production in Hungary contributes approximately half of the national income and at the same time supports the economic potential for war of the Bloc with important exports of bauxite, heavy machinery, and steel products, including weapons and ammunition, electrotechnical products, and precision parts and instruments. To maintain and expand this contribution to the Bloc's economic-military potential, capital investment is to be expanded by 1954 by approximately 60 percent over 1950, with particular emphasis on basic industries, notably coal, iron and steel, and chemicals.

Industrial development in Hungary is necessitating a considerable expansion in urban employment in the face of heavy war losses of urban males of working age. Labor is shifting from agriculture, and the employment of women is increasing. Nonagricultural employment increased 250,000 under the Three Year Plan (1947-50), and an additional expansion of 650,000 to a total of approximately 2.4 million above the prewar level is anticipated by 1953. Although there is a deficiency in skilled manpower and technical personnel, labor productivity has recovered to approximately prewar levels. Increased industrial production, despite quantitative and technical shortcomings of the labor force, may be attributable to improvement in industrial equipment by the Germans during World War II and current drives for increased individual output.

Measures toward collectivization of agriculture were not taken until mid-1948 and have since advanced at a slow pace. A substantial exportable food surplus will be available to the Soviet Bloc in 1951 and 1952.

Production of iron and steel in excess of prewar levels has been made possible through importation of essential raw materials from the Bloc. The considerable expansion planned for 1954 will depend on increased imports of high-grade iron ore, bituminous coal, and ferroalloys, since Hungary lacks adequate domestic supplies.

Among the nonferrous metals metals produced, only aluminum and antimony are significant. Aluminum production capacity is being rapidly expanded, but imports of copper, lead, and zinc must be allocated by the USSR from Bloc availabilities.

Coal production is being expanded at a rapid rate to meet rising industrial requirements, but Hungary must depend entirely on imports from the Bloc for bituminous coal and metallurgical coke. Although coal will continue in short supply in 1951 and 1952, surplus production within the Bloc could meet the rising requirements of Hungarian industry. Output of crude oil is small, but the production of petroleum products in 1950 exceeded domestic requirements by some 285,000 metric tons, most of which were exported to the rest of the Bloc. The output of electric power will meet industrial requirements through 1952. Necessary expansion will be facilitated by increased production of coal and by the availability of domestically produced electric power equipment.

In line with the anticipated production expansion in the coal, electric power, and ferrous metals industries, output of chemicals will continue to rise through 1952. Some shortages of chemicals can be met through imports from East Germany, Poland, and the USSR. The export of ammonium nitrates from Hungary to the Bloc strengthens the latter's war potential. On the other hand, Hungarian shortages in sulphur and pyrites must be met from the relatively short supplies available within the Bloc.

With the projected expansion of the extractive and power industries, Hungary's engineering industry, which currently makes a significant contribution to the Bloc availability, notably in heavy machinery, steel products, electrotechnical products, precision parts, and instruments, will increase this contribution through 1952. Production in the engineering industry in 1952 may exceed 1950 levels by 40 percent. Extensive conversion to military production began early in 1950 and is increasing at an accelerated rate. The economic potential for war of the USSR is also being increased by Soviet receipt of the total output of the Hungarian shipbuilding industry.

Railroads also are adding to the Soviet war potential by carrying transit traffic of such important items as machinery and chemicals from Austria, Switzerland, and Czechoslovakia. Planned improvements in the rail networks, including strengthening of main through lines, construction of a by-pass near Budapest, and the development of a new transloading station, will augment the contribution to the Bloc's economic-military potential.

Hungarian exports to the USSR in 1950 exceeded imports by over $100 million. It is expected that this ratio will prevail throughout 1952. On the other hand, Hungarian imports from the Satellite area in 1950 exceeded exports, and total trade with this area was nearly three times as large as in 1949. In 1950, exports to Western Europe dropped nearly 50 percent from the 1949 level. These shifts in trade are probably indicative of the successful economic integration of Hungary within the Soviet Bloc. As this integration advances, Hungarian dependence on Western imports will continue to decline in 1951 and 1952.

The total value of Hungarian imports from the West is small, but the composition of this trade is of considerable importance. Imports consist chiefly of machine tools, bearings, agricultural machinery, industrial raw materials,

and semimanufactures. The denial of Western shipments to Hungary would retard but not prevent the carrying out of the Five Year industrialization program. Western denial of ball and roller bearings would cause some disruption in heavy industry. Since the bulk of Hungary's imports come from within the Bloc, economic warfare measures directed against the Bloc as a whole would be more effective than if they were applied to Hungary alone.*

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* For a recapitulation of limitations, deficiencies, and requirements of economic intelligence with respect to Hungary, see Appendix A, p. 113. Footnote references in the text that follows are numbered consecutively in arabic numerals for each major subdivision. The footnotes themselves, together with references to other source material, are given in Appendix B, p. 122. Explanatory footnotes, indicated by asterisks (or, in tables, by lower-case letters), are given on the page in the text where the reference occurs.

I. Trends in the Structure of the Economy.

Summary

Soviet controls over much of the Hungarian economy appear firmly established and are likely to be further expanded in 1951 and 1952. The continued subservience to the USSR of top-level Hungarian administrators, many of whom are Soviet-trained, reinforces the Soviet economic hold on Hungary and promotes increased dependence on the USSR.

The present Communist regime in Hungary is effectively increasing its control over industry and the service branches, but to date its control over agriculture is less far-reaching. The recently announced drastic revision of the Five Year Plan (1950-54), calling for greatly increased production and for continued expansion in heavy industry, is further evidence of the regime's intention to exercise tighter economic controls and to enforce more exacting programs of socialization.

The principal weakness in control exists in the field of agriculture, where socialization is proceeding slowly. Communist concern over this problem is indicated by recent charges against the "backwardness" of agriculture, increased planning emphasis on the mechanization and socialization of farming, and severe crop surrender measures aimed at the kulaks. Although there is evidence of considerable unrest among the farmers, especially the kulaks, present trends indicate that Communist controls are unlikely to be successfully challenged during 1951 and 1952. Communist planning, while directed toward eventual socialization, apparently is designed to avoid serious trouble with farm groups as a whole.

A lesser weakness exists in controls over industrial labor. Current trends indicate an undercurrent of dissatisfaction in labor union ranks, where some resentment against recent control programs has appeared. With the continued rapid expansion of the industrial labor force, there is some possibility that labor unrest may increase and create a serious problem for the Hungarian government.

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1. Control of the Economy by the Government (including Direct Control by the USSR).

The USSR exercises important controls over Hungary's economic affairs and is expected to continue such controls during 1951 and 1952. In large part these controls stem from the Soviet occupation of Hungary during 1944-47. During this occupation the USSR was able to place Hungarian Communists, and even Soviet citizens, in important economic posts in Hungary, thereby facilitating the establishment of a Communist regime. The resulting constant subservience of Hungary's top economic administrators to control by the USSR can be expected to

continue as a major influence in the Hungarian economy.

Moreover, the USSR under the terms of the Potsdam agreement was able to take over former German assets in Hungary and thereby obtained control of more than 200 firms. By acquisition of these properties and by the formation of joint Soviet-Hungarian companies to exploit aviation, river navigation, petroleum, and bauxite-aluminum resources, the USSR acquired control over the important sectors of the Hungarian economy. The Soviet Union also profited by the terms of the Hungarian peace treaty, which provided for the payment of $200 million in reparations to the USSR over a period of 8 years ending in 1952. The USSR also has influenced Hungarian production by stipulating the kinds and amounts of products that will be accepted as reparations. In addition, Soviet control is exercised through the medium of trade agreements, an example being the agreement of 2 October 1948 providing for the delivery of $150 million worth of machinery to the USSR between 1950 and 1954. Thus it should be anticipated that Soviet economic controls of this nature may be intensified during 1951 and 1952.

a. Economic Planning.

(1) Preparation of Plans.

The basic principles of the Three Year Plan (1947-49) and of the Five Year Plan (1950-54) which followed were first worked out by the Communists in Party circles. In fact, in the Five Year Plan Act, there appears a formal acknowledgement of Communist responsibility for initiating and working out the general outline of the Plan. In addition, reference is made to various unspecified forms of Soviet assistance in the preparation of the Plan.

Since 1947 the planning process has developed and expanded after the Soviet fashion. The formulation of a plan is followed by revisions to meet changing conditions as they become evident. Thus the Three Year Plan was fulfilled, at least officially, within 2 years and 5 months, permitting substantial changes in the 1949 targets. The Five Year Plan was extensively revised in May 1951. In explaining this revision, Zoltan Vas, President of the National Planning Office, emphasized the following considerations: (a) the 1954 targets for manufacturing, based on 1950 results, could be met in 1953; (b) the need appeared in various branches of industry, such as coal, steel, iron, and chemicals, to speed up production; (c) a lag in agriculture was hindering further development of the economy; and (d) the existence of labor shortages created a need for the further expansion of the labor force. This revision, undertaken despite admitted difficulties, indicates a trend toward planning for higher targets and stricter controls to exact maximum returns from the economy.

Although basic decisions regarding planning programs are made in Party organs, there is a tendency to give governmental planning units increased responsibilities as they attain a certain maturity or reliability and

became more experienced. Thus the Three Year Plan Act of July 1947 provided for the establishment of the National Planning Office, which is charged with the responsibility for preparation of detailed plans. In June 1949 there was established the People's Economic Council, a small body of high-ranking members which became the supreme organ for planning, subject only to decisions of the Cabinet Council. Thus the number and the planning functions of the economic ministries have been greatly augmented since 1947. The same development applies to the administrative units extending down to the local enterprises, which play an increasing role in the detailed preparation of plans.

Trends in plan preparation are reflected in the statement of objectives and aims. In the Five Year Plan Act the Plan's basic objectives were (a) acceleration of the industrialization process, (b) abolition of the "backwardness" of agriculture, and (c) transformation of the economy into a predominantly industrial one. In the 1951 revision these objectives are again stressed, and specific targets for production, investments, labor productivity, and other fields are raised accordingly. The total investment figure was changed from 50.9 to 85 billion forints,* and large-scale industrial production from 186.4 to 310 percent of 1949 production. According to Vas, by 1954 industry is to account for 64 percent of the national income as compared with 51 percent in 1949, and the capitalist sector of the economy is to be reduced to about 1 or 2 percent as compared with 20 percent in 1949. In accordance with the Communist concept, the economy is therefore to be subordinated to the requirements of industrialization.

(2) Plan Control.

Trends in the control of plan fulfillment roughly parallel those dealing with the preparation of plans. With the development of the planning process has come more elaborate machinery to control plan fulfillment.

The People's Economic Council and the National Planning Office exercise, respectively, policy-making and supervisory powers with regard to plan fulfillment. The Planning Office has authority to deal directly with local units, make inspections, require reports, confer with the ministries and other central agencies, and present enforcement problems to the Cabinet Council. The People's Economic Council is charged with the coordinating functions and thus exercises control over the economic ministries, the Central Statistical Office, the State Control Center, and other bodies concerned with plan fulfillment.

* Although the official exchange rate of the forint is 7 to the US dollar, this does not in any way represent the forint's real exchange value, which is at least many times the official rate. It is difficult to estimate this exchange value, since the forint's purchasing power varies with each category of commodities, whose price is fixed by the government.

In 1949, on the eve of the inauguration of the Five Year Plan, the State Control Center was reorganized and assumed the functions of the two former agencies concerned with the finances of governmental agencies and of national enterprises. In addition, the Center deals with such general problems as efficiency, nationalization of production, and enforcement of government decrees. Another body concerned with plan fulfillment is the Central Statistical Office, which recently was granted authority to issue quarterly reports on the Five Year Plan. In addition, on 18 February 1951 this office was given the authority to initiate criminal proceedings under the severe law for the "protection" of the economy. This authority also is held by the Planning Office, the State Control Center, and the ministries.

b. Administrative Control.

(1) Industry.

Recent trends in administrative control reflect the development of more elaborate and more effective machinery to direct the rapidly expanding state industries. New agencies also have been created to keep pace with the extension of state ownership of new branches of industry.

Illustrative of the trend toward more elaborate administrative control, the Heavy Industries Center, which formerly had been the administrative organ for the nationalized sector of heavy industry, was transformed in January 1949 into the Directorate of Heavy Industry and incorporated as a separate section in the previously existing Ministry of Industry. In June 1949 this Ministry was divided into two separate Ministries, one dealing with heavy industry and the other with light industry. The Ministry of Heavy Industry assumed jurisdiction over the following Directorates: coal mining; bauxite and aluminum; heavy industry; power; industrial development; electric and mass appliances; and the chemical and the lime, cement, and glass industries. Since then the Ministry of Heavy Industry has been reorganized from time to time. For example, from units in the Ministry two new Ministries were created in December 1950, one for mining and power and the other for foundries and machines.

Despite the trend toward tighter control, there is considerable evidence that labor problems have not been satisfactorily resolved. In 1950 and 1951, many new decrees were issued with regard to wage and consumption norms, bonus payments and other incentive devices, defective production, labor discipline, and employment records. In an effort to attain greater stability, industry wage agreements recently have been replaced by a system of factory wage agreements. In December 1950 the Council of Ministers adopted a far-reaching resolution on economy and waste. Yet in spite of these efforts, there persists continued criticism by administrators of the lack of discipline, indicating a weakness in control over Hungary's expanding industries. Although the trend toward stricter controls is expected to continue in 1951 and 1952, it is unlikely that the labor problems will be entirely solved.

(2) Agriculture.

The trend toward rigorous controls is less evident in regard to agriculture than in the other sectors of the economy. Little socialization was attempted before 1948, and the tempo since that time has been slow, indicating a continued slow extension of direct controls in 1951 and 1952. State farms and producers' cooperatives represent only a minor part of agricultural production. However, by a variety of measures pressure is exerted on the various farm groups outside of the socialized sectors.

Recently there has appeared some criticism of state farm operations. In January 1951 the number of work classifications was greatly reduced, and an investigation was ordered of the conduct of various managers. In March the work brigade system was decreed for all state farms. It can be anticipated, therefore, that continued efforts will be made toward tighter controls of the state farms.

Since 1947 the organization of farmers into producers' cooperatives has been relied upon as a means of gradually collectivising agriculture. There are three types of producers' cooperatives, in addition to the independent agricultural cooperatives, as revealed by a decree issued by the Minister of Agriculture in January 1951. Two of these four categories represent relatively mild phases of collectivization and the other two a relatively advanced stage resembling more closely the Soviet pattern. In recent months, Communist leaders have advocated the formation of the milder types of cooperatives in the immediate future, indicating a mild program for agriculture, somewhat similar to their concept of the Soviet New Economic Policy in the 1920's.

Meanwhile, general controls over agriculture have been intensified, and this trend is expected to continue. Through rationing, taxes, surrender decrees, control of supplies, and other measures the farmers are pressured into support of the Five Year Plan. Recent criticism of the kulaks and the severe crop surrender decree for 1951 applicable to them indicate that these farmers may experience harsh treatment during 1951 and 1952. In any event, the Communist leaders apparently are planning to correct as rapidly as possible the control weaknesses which exist in agriculture.

(3) Economic Services (Transportation, Communications, etc.).

The trends toward increased control over economic services are similar to those in industry. The trend toward tighter top-level organization is illustrated by the creation in June 1949 of the Ministries of Internal and External Trade to replace the former Ministry of Commerce and Cooperative Societies.

2. Factors Relating to the Effectiveness of Control.

a. Proportion of the Economy under Direct Government Control.

The trends toward nationalization of the economy indicate virtually complete governmental control over the main sectors of industry and economic services but only limited control over agriculture.

(1) Extent of Nationalization of Industry and Services.

Hungarian industry is almost completely nationalized. By virtue of the nationalization measures adopted in the first half of 1948, the proportion of workers in nationalized industries increased during this period from 42 to 78 percent. According to semiofficial sources, about 80 percent of all industry was state-owned at the end of 1948. Nationalization continued during 1949 and 1950, featured by the decree of December 1949 which applied to firms employing 10 or more persons. Zoltan Vas, President of the National Planning Office, recently announced that at the end of 1950 the socialist sector extended to 100 percent of the manufacturing and building industries but was limited to 10.6 percent of small industries, chiefly shops with fewer that 10 employees. Vas also stated that 97 percent of all industry, including small industry, should be socialized by the end of 1951.

Nationalization of the economic services, with the exception of retail trade, is likewise far-advanced. In the previously reported statement, Vas declared that at the end of 1950 communications and wholesale trade were 100 percent in the socialist sector, while only 67 percent of retail trade was nationalized. Some nationalized services, particularly with respect to transportation, were inherited from the former government. Electric power plants were nationalized in 1946, and banking was nationalized in 1947-48. Foreign trade also came under state ownership by virtue of various measures adopted during the period of the Three Year Plan. Although only 67 percent of retail trade was reported as state-owned at the end of 1950, this figure represents a notable change from the 30 percent claimed for the end of 1949. The expansion of the state's role in retail trade will continue during 1951 and 1952.

(2) Extent of Collectivization of Agriculture.

The socialization of agriculture, which has proceeded far less rapidly than that of industry and of the services, now extends to only a small proportion of farming operations. According to late 1950 figures, the socialized sector embraces 15.9 percent of the tillable land, of which 7.2 percent represents state farms and 8.7 percent producers' cooperatives. The Hungarian Central Statistical Office published data indicating that in 1950 the percentage of tillable land in the socialist sector approximately doubled, being 8.7 percent at the beginning of the year.

There is some evidence to indicate that the recent rate of socialization of agriculture may not be maintained in 1951. On 10 March 1951 the formation of new cooperatives was halted, and the official objective was defined as the consolidation and development of those producers' cooperatives already in existence. Nevertheless, both in the Five Year Plan and especially in the May 1951 revision, great stress is placed upon the need to deal with "backward agriculture." Consequently, some further expansion of the socialist sector probably will be attempted during 1951 and 1952.

b. Nongovernmental Organizations as Instruments of Economic Control.

Recent reports indicate significant trends developing in the trade union field. During 1950 and 1951 there was much criticism of the alleged failure of the unions to perform their proper role in connection with labor discipline and morale. During the summer of 1950, Communist leaders severely berated the union leadership and top officials of the Trade Union Council, who publicly acknowledged their shortcomings. Meanwhile, numerous revampings of trade union agencies have been carried out, and many unions have been combined in order to bring them more effectively under Communist control. In June 1950 the Trade Union Council passed a resolution aimed at revitalizing the role of union confidential agents in factories, and in December the Council adopted new statutes apparently intended to stress workers' duties and to tighten Party control over the unions. Recent replacement of industrial wage agreements by factory wage agreements is a further indication of the trend toward increased control over the unions. Meanwhile, certain governmental functions, such as the responsibility for administering the social insurance program, have been transferred to the trade unions. The trend toward increased party and state control over the unions is expected to continue during 1951 and 1952.

II. Capacity of Human Resources for Economic Development.

Summary

Hungary is planning to increase its civilian labor force by 300,000 persons, from 3.9 to 4.2 million, from January 1950 to January 1953. There is also planned a shift of 200,000 persons from agricultural employment to nonagricultural. Since the civilian labor force increase of 300,000 is entirely nonagricultural, this category of workers is therefore expected to gain a total of 500,000. The 1953 goal for the labor force will be attainable because of the natural increase in the population and the recruitment of women. Hungarian training programs, which encountered initial difficulties, are designed to produce more skilled workers, but the ambitious expansion called for in the present Five Year Plan (1950-54) will place a strain on the supply of skilled labor. Productivity is now almost equal to prewar levels.

1. Size and Distribution of the Labor Force.

At the beginning of the present Hungarian Five Year Plan (January 1950) there was a civilian labor force of about 3.9 million people. This was a decrease of approximately 400,000 below the level shown by the 1941 census. The following table gives the projected increases in the labor force:

Civilian Labor Force
(Estimated as of 1 January)

Thousands

Category	1950	1951	1952	1953
Agricultural Workers	2,000 1/	1,900 a/	1,850 a/	1,800 a/
Nonagricultural Workers and Employees	1,920 b/	2,143 2/	2,303 3/	2,433 4/
Industry, Construction	1,085 5/	1,270 6/	1,420 7/	1,550 8/
Transport	185 9/	213 10/	225 11/	223 c/
Commerce, Public Employment	650 d/	660 12/	660 e/	660 e/
Total	3,920	4,043	4,153	4,233

a/ Estimated on the basis of withdrawals into nonagricultural employment.
b/ Sum of components.
c/ With reduction in total annual increment to labor force, no change in transport employment is expected.
d/ Projected from 1941 census data.
e/ No further increase expected, in the light of criticism of administrative and trade overstaffing. 13/

The war made little change in the total number of the population of working age (over 15 years) but sharply reduced the proportion of urban males of working age. War losses were heavy among males of working age, leaving a predominance of rural female workers. This is shown in the following table:

Sex Ratio of Different Urban and Rural Areas
1941 and 1949 14/

Settlements	Males		Females	
	1941	1949	1941	1949
Budapest	542,409	477,954	622,564	580,334
13 Towns	480,241	408,758	457,484	449,361
46 Towns	650,616	602,184	665,184	661,587
61 Rural Communities over 10,000	419,803	416,213	441,739	447,756
Villages under 10,000	2,497,806	2,519,434	2,568,064	2,643,705
	Male Decrease or Increase		Female Decrease or Increase	
Budapest	-64,455	11.9%	-42,220	6.8%
13 Towns	-41,483	9.2%	- 8,123	1.8%
46 Towns	-48,432	7.4%	- 3,771	0.5%
61 Rural Communities over 10,000	- 3,590	0.8%	+ 6,017	1.4%
Villages under 10,000	+21,628	0.9%	+75,641	3.0%

To restore the balance of the economy, it was necessary to shift large numbers of rural people and to attract a considerable number of women into non-agricultural employment. The first Three Year Plan (1947-50) increased the numbers of nonagricultural workers by 250,000, 15/ leaving the total of employed persons still below the prewar level. It is planned to add 650,000 workers 16/ in industry during the present Five Year Plan (1950-54). Assuming success in securing the major part of the increment in the first 3 years, non-agricultural employment will reach about 2.4 million by January 1953, a level somewhat above prewar. Although the addition of 300,000 new workers in 3 years will be difficult, it is not impossible, because of the elasticity of the working population.

2. Level of Technical Training, Skill, and Efficiency.

The Hungarian Cabinet has recognized that, in the light of ambitious expansion plans, skilled manpower and technical personnel are in short supply. There is, however, no evidence of extensive use of engineering and technical

personnel from the USSR, except where necessary to integrate Hungarian production with Soviet industry. Measures to prevent the shortage of skilled manpower and technical personnel from becoming a bottleneck are the responsibility of the Office of Manpower Reserves. While this Office has only recently required work record books, it has maintained a file of workers which shows the reasons for their leaving jobs. Technical training facilities at all levels have been increased. Colleges will graduate about 6,000 technical personnel in 1951, secondary school enrollments have increased, and 55,000 apprentices will be in industry in 1951. 17/ The government subsidizes most of those students in the technical colleges who are "children of workers and peasants," a group comprising 60 percent of the total enrollment. The Office of Manpower Reserves has assumed complete control of the training workshops. Control of the training process was facilitated by a purge in the Ministry of Education and some college faculties in 1950. The college enrollments of 1949-50 indicated nearly a sixfold increase in engineering students over prewar levels and a threefold increase in medical students. 18/

During the period of postwar recovery, various factors have affected efficiency in production. Output has been reduced by the induction of thousands of new workers, the discharge of politically undesirable managers, difficulties with the early apprentice training program, and waste associated with the drive for quantity. On the other hand, training programs have recently been improved with the graduation of at least one class of engineers and specialists, work norms have been revised upward, drastic penalties are now provided for interference with the success of the Five Year Plan, and Soviet-type competition has been promoted. Continuous statistics of productivity are not available, but some parts of the postwar period are covered. With the average for 1947 as a base of 100, the index advanced to 189 by December 1948 and still further by the end of 1949, 19/ indicating that output per man is approaching prewar levels.

3. Expansibility and Adaptability of the Labor Force.

a. Additional Labor Input from Present Labor Force.

Absenteeism was reduced during the period from July 1948 to June 1949 from 19.3 percent of all working hours to 15.5 percent. 20/ Further gains in this sphere will be more difficult but will be attempted. Overtime hours were also reduced from 6.5 percent of all working hours to 3.4 percent. 21/ The present low rate of overtime indicates that a considerable increase in total man hours could be obtained by increasing overtime work.

b. Sources of Additional Manpower.

Of the 300,000 additional workers planned in industrial employment from 1950 to 1953, 150,000 will be available because of the natural increase of 50,000 per year in the number of workers over 15 years of age. 22/ Some additional shifts from agriculture will be made, and the proportion of women in industrial employment will be increased. Under cold war conditions it is not expected

that school enrollments will be reduced, but training is being accelerated, and an increased proportion of graduates is being directed into industry. Full-scale mobilization would require reduction in planned employment goals.

[redacted]

III. Living and Working Conditions.

Summary

Food shortages developed in Hungary in 1950, and in 1951 rationing was reimposed for the second time in the postwar period. Housing in Budapest is below prewar levels, but living conditions are not so critical as to cause widespread unrest such as would constitute a threat to the regime.

Working conditions in Hungary are closely regulated by the state and follow the familiar Satellite pattern of the reduction of labor unions to rubber-stamp enforcement agencies of government policies, the imposition of piecework norms as a basis of wage payments, and the use of incentives to increase productivity. The effect of limitations on food and the drive for greater industrial productivity have resulted in widespread apathy on the part of the worker, expressed in work norm frauds, absenteeism, and illegal migration. Causes of sabotage have occurred in response to upward norm revisions but do not constitute a distinct weakness in the economy, although they do deter the pace of industrialization.

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1. Living Conditions.

a. General.

The Communist regime in Hungary has produced a social upheaval, and the poorer peasants, industrial workers, Communist intelligentsia, and party members have risen to the top. Recently there have been reductions in the welfare of all classes caused by the shortage of food and consumer goods. The government, aware of the discontent over the relative shortages of the past year, reinstituted food rationing early in 1951. As yet there is no indication that the undeniable welfare gains of the last few years have been so completely reversed as to entail any threat to the regime.

According to official Hungarian statements, real income in Hungary increased steadily in the immediate postwar period, surpassed the prewar level in July 1948, and rose even further in 1949. 1/ Such information as is available on wage increases and official prices of foods on the controlled Hungarian market would seem to confirm a rising average standard of living, at least until mid-1950.* The following cost-of-living index, also based on scattered

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* Information on wages and food prices is presented in tables at the end of this section.

[redacted]

official Hungarian statistics, shows a steady rise through 1948 but a drop in 1949 to a level below the 1947 average:

Cost of Living Index 2/
1946-49

	1937 = 100	
Year	All Items	Food
1946	410	543
1947	461	660
1948	482	690
1949	441	580

The low prices of 1949 indicated that the Hungarian standard of living was among the highest in the Satellite countries. Food was relatively plentiful and cheap, and other consumer goods such as furniture, clothing, kitchen equipment, and radios, while expensive, were readily available even to some workers. 3/ This degree of recovery is striking in a defeated country paying heavy reparations.

The supply of consumer goods decreased markedly after 1949. The government attributed this to the necessity to export food, to the machinations (hoarding and scare-buying) of rich peasants, and to the indiscriminate buying of those with rising incomes. 4/ The partial drought in 1950 also was a factor in reducing the availability of consumer goods.

b. Food.

Information on the per capita consumption of selected foods in postwar Hungary as compared with prewar consumption shows clearly the progress achieved through 1949 in restoring and, in such cases as cereals, fats, and sugar, in surpassing prewar levels of consumption. This progress was officially marked by the gradual elimination in 1949 of virtually all of the ration restrictions which had been in force since the beginning of the war. Food shortages began to occur sporadically in the spring of 1950, however, increasing in frequency toward the end of that year. 5/ Beginning on 1 January 1951, full rationing was periodically reintroduced on individual food items until the most important foods were again rationed. The basic rations under the current system are surprisingly low. The basic bread ration, for instance, is exactly the same as the ration in effect during 1946, when Hungarian food supplies were at a postwar low. The basic meat ration for Budapest residents is less than half of the claimed 1950 per capita consumption

and only 47 percent of the prewar national level. Only the butter ration is above prewar consumption, but butter is available only to a few.

Supplementary rations, most generous for heavy laborers, particularly miners and "intellectual workers," provide the favored elements of the population with a ration well over the prewar average for bread, fats, and sugar but still below recent averages for meat and milk. The same foods can be purchased in a free market, but prices are prohibitive, and goods are not always available. Little is known regarding the food consumption of the agricultural population, but it is presumably higher at present than the rations for the urban population.

It is possible that rationing has been introduced, not only to assure equitable distribution of consumption but also to provide incentives for workers to enter more favored occupations, thereby reinforcing the government's currently unsuccessful labor recruitment program. Rationing might also be designed to induce employees to work longer hours in order to supplement their meager food supplies with free-market purchases.

c. Housing.

Hungary suffered considerable damage to housing facilities during the war but as the result of a generally satisfactory building and repair program has been successful in restoring most of the damage.* In spite of the rehabilitation of damaged housing and the addition of new housing, however, population increases have more than offset these gains. It appears that the average number of people per room in Budapest in October 1949 may have been as high as 3.13. This figure, however, represents some progress since the end of the war, when the number of persons per room in Budapest was probably greater than four.

The extent to which housing is now under government control in Hungary is not known, but probably most, if not all, of the postwar construction is public property. The necessity for reconstruction in Budapest channeled some old housing into government control by means of a decree in May 1948 stipulating that if the owner of a damaged house could not start its reconstruction by 31 May 1948, the government would assume responsibility for the reconstruction and automatically become owner of the property. Because of low fixed rents, the high cost of government-controlled building materials, and the deflationary credit policy of the government, most landlords were effectively prevented from undertaking reconstruction, so that all of the buildings reconstructed after May 1948, which included the bulk of reconstruction in Budapest, have probably passed into government ownership. 6/

* Statistics on postwar housing construction and rebuilding in Budapest are contained in a table at the end of this section.

To date there is no evidence that the housing shortage is a matter of major concern to the government or that it has had a significant effect on the morale of the population. However, some strain may be placed on the construction industry as it tries to keep pace with the rapid industrialization of the country, which is occurring to a large extent in localities that do not have sufficient housing to accommodate a large influx of workers.

d. Health and Welfare.

Information regarding health and sanitation in Hungary is very meager, but it would appear that good general progress has been made in restoring war-damaged hospital facilities and in building new ones. Of the 50,000 hospital beds available before the war, only about 20,000 were reported to be functioning at the end of 1945, 7/ but all 50,000 were reportedly available again at the end of 1949. 8/ Nevertheless, facilities for the treatment of tuberculosis, Hungary's greatest public health menace, were inadequate until recently. The government has stated that the minimum requirement for the treatment of tuberculosis is 9,000 beds (apparently in contagious wards), that at the beginning of 1947 only 5,600 such beds were available, and that only 6,300 were planned to be available by the end of 1947. 9/ Progress since 1947 is not known, but if Hungary has added as many as 700 beds each year for tuberculosis patients since 1947, it would be close to its stated minimum requirements for treatment of this disease.

2. Working Conditions.

The Hungarian government exercises complete control over wages, hours (a 48-hour week is standard), social benefits, and other working conditions. 10/ Trade unions have been reduced to subservience and exist only to rubber-stamp prearranged "collective agreements," to enforce state regulations, and to perform minor welfare functions. Many measures of government control extend beyond the industrial labor force to embrace the trades, the professions, and agricultural labor. 11/

The introduction of the piecework system in industry was designed to raise productivity by setting output norms which had to be met if the worker were to maintain his income. Thus far the system seems only to have aroused widespread apathy among the workers and, to some extent, even among managers and trade union officials. Heavier doses of government discipline and incentives have failed to overcome this apathy, and periodic manipulations of the norm levels have inspired protests and occasional acts of sabotage, although such resistance is sporadic and of little significance. In addition, the state must contend with norm frauds, which managers and union officials often sanction, 12/ and with excessive absenteeism, tardiness, loafing on the job, and illegal

migration. Labor turnover is high, particularly among former agricultural workers. Thus, while there appears to be little tendency on the part of the labor force toward open resistance to the regime, a considerable degree of protest against arbitrary government control manifests itself in an indirect manner. These protests, while they do not seriously retard industrial output, do put a brake on Hungary's program of rapid industrialization. The present situation will probably persist for some time. There is no evidence that the government will attempt to handle the labor force with more drastic or repressive measures, which in any case would be of doubtful effectiveness.

Wages of Certain Hungarian Industrial and Office Workers 13/
1947, 1949

	Forints Per Month	
	1947	1949
Industrial Workers		
Average Industrial Worker	458	676
Mimeograph Industry	N.A.	790
Metallurgy and Metal Working	N.A.	730
Machinery Industry	N.A.	700
Construction Industry	N.A.	672
Electrical Equipment Industry	N.A.	936
Skilled Motor Mechanics	N.A.	1,500 14/
Office Workers		
Ordinary Clerk	433 14/	720 14/
"White Collar" Worker	851	998
Multilingual Clerk-Typist	N.A.	1,500 14/

[redacted]

Official Prices of Selected Hungarian Foodstuffs
1948-50

Forints per Kilogram

	1948 November 15/	1949 Summer 16/	1949 Fall 17/	1950 Summer 18/
White Bread	N.A.	2.60	1.60	1.60
Potatoes	0.68	0.76-0.82	0.58	0.50
Beans	1.80-2.40	0.70-0.90	N.A.	2.17
Soup Meat (Beef)	N.A.	8.40	N.A.	7.80
Pork	N.A.	19.30-20.00	N.A.	14.60
Ham	15.20	16.90	N.A.	12.70
Fish	N.A.	10.75	N.A.	9.75
Lard	19.70-20.00	19.00	17.00	17.00
Butter	28.00-29.00	24.00	23.00-24.25	N.A.
Cheese	15.00	14.20	11.00	N.A.
Eggs (Dozen)	9.60-10.90	8.40	9.00-9.80	7.80
Kale	N.A.	1.70	N.A.	1.35
Nut Meats	28.00-34.30	34.50	18.00-30.00	N.A.
Coffee	120.00	N.A.	119.00	N.A.

Wartime Damage and Postwar Housing Construction and Rebuilding in Budapest

	Dwelling Units	Rooms
Habitable, Prewar	293,200 19/	481,000 20/
Completely Destroyed	15,850	26,000 20/
Damaged but Repairable	53,660	88,000 20/
Habitable at End of War	223,690	367,000
Repaired up to October 1949	50,850 20/	83,390
Newly Constructed up to October 1949	22,620	28,410
Habitable, October 1949	297,160 19/	478,800 19/
Still to be Repaired, October 1949	2,450 21/	4,020

[redacted]

[redacted]

IV. Foreign Trade and Finance.

Summary

The value of Hungary's exports to the USSR in 1950 exceeded that of imports by over $100 million. This condition should prevail through 1952, when gross deliveries to the USSR will probably reach between $200 million and $250 million. Considerably more than 60 percent of Hungarian exports to the USSR are in the form of finished goods, and the remainder is largely foodstuffs, aluminum, and large supplies of bauxite. The finished goods fall into the following four general categories: manufactured metal products, including machinery and munitions; precision and optical equipment; electrical and electronic equipment; and textiles. To meet Soviet demands, Hungary must be provided with commodities chiefly composed of industrial raw materials, primarily coke, iron ore, and lumber.

Hungary is orienting its economy toward the Soviet Bloc and is exporting to the Satellites foodstuffs, textiles, bauxite and aluminum, some railroad equipment, telephone and radio equipment, pharmaceuticals, and special types of machinery. Hungary imports from the Satellites coke, iron ore, timber, vehicles, chemicals, rolled metal goods, nonferrous metals, ferro-alloys, precision instruments, and other industrial equipment. These Hungarian imports from the Satellites reduce the volume of imports from the USSR.

Hungarian exports to the Western countries consist chiefly of agricultural commodities. Owing to Western Europe's inability to finance imports from non-Soviet Bloc countries, particularly from dollar areas, Hungarian foodstuffs find a ready market in the West, which takes a large part of such Hungarian exports. Although trade agreements with the West call for sizable shipments of finished goods, such agreements are usually not fulfilled.

Current imports from the West are not indicative of Hungary's minimum requirements. Imports are principally cotton, nonferrous metals (especially copper), machine tools, certain precision and industrial equipment (including bearings, electrodes, and abrasives), wool, hides, tanning materials, paper and pulp, and certain foodstuffs.

As Soviet Bloc capacity both for volume and quality production increases and the economic integration program advances, Hungarian dependence upon Western imports will be considerably decreased.

[redacted]

1. Introduction.

The withdrawal of certain Western exports would probably affect, in order of importance, Hungary's consumption pattern, rate of industrial expansion, current output of industrial military equipment, and the Soviet Bloc stockpiling programs. However, in view of past Hungarian ability to obtain imports from the West, future procurement efforts will probably continue to be successful.

2. Import Requirements.

a. Trade with the Soviet Bloc.

Soviet trade policy requires that Soviet Bloc dependence on imports from Western areas be reduced to a minimum. It is apparent that implementation of this policy was an important factor in the formulation of the long-term Soviet Bloc trade pacts of 1950.

The following table shows the principal Hungarian imports and the proportion of those imports obtained in 1947 from the Bloc:*

Principal Hungarian Imports
1936-48

Thousand Metric Tons

Commodity	Minimum 1936-39	Maximum 1936-48 a/	1947	Percentage from Orbit in 1947
Cotton	27 (1937)	28 (1936)	26	35
Hides, Skins, etc.	2 (1936)	17 (1939)	5	5
Timber and Products b/	608 (1939)	1,053 (1937)	229	65
Coal	171 (1936)	263 (1939)	131	100
Coke	244 (1936)	564 (1948)	423	100
Petroleum c/	18 (1936)	38 (1937)	11	42
Iron Ore	318 (1936)	795 (1948)	579	95
Pig, Scrap, Ferroalloys	67 (1938)	126 (1936)	N.A.	N.A.
Copper and Alloy	10 (1936)	17 (1939)	5	58 d/
Other Nonferrous Metals	11 (1936)	23 (1939)	6	78
Chemicals	46 (1936)	222 (1948)	112	32

a/ Because of war conditions, imports were necessarily low from 1940 to 1946.
b/ Including paper, cardboard, and pulp.
c/ Principally refined products.
d/ Primarily from Yugoslavia (85 percent) and the USSR (15 percent) by value.

* A more detailed table is given at the end of this section.

The great majority of Hungarian requirements are obtainable from the Bloc. As the economic integration program for the Bloc becomes more effective, this condition will be even more prevalent. East Germany and Poland, for example, should be able to fill a larger portion of Hungarian chemical requirements. Poland, the USSR, and Czechoslovakia should be able to fill the timber requirements, and East Germany the electrode requirements.

b. Trade with the West.

Agreements with Western European countries in 1950 called for imports slightly in excess of 1949 imports from these countries, but fulfillment was incomplete. Trade agreements with overseas areas also remained unfulfilled.* This lack of implementation of trade pacts with Western European countries and overseas areas does not indicate actual requirements or trade.**

c. Clandestine Imports.

Clandestine imports are primarily nonferrous metals, ferroalloys, and automotive parts. Hungarian agents constantly attempt to make spot purchases of small quantities of commodities which are delivered through the British Zone of Austria after being consigned to Switzerland. Copper, tin, molybdenum, cadmium, nickel, cobalt, chrome, and various ferroalloys of these metals are the chief components of this trade.

3. Exports.

a. Trade with the USSR.

Hungarian exports to the USSR exceeded imports from the USSR by more than $100 million in 1949. Total exports to the Soviet Union in 1952 are expected to be from $200 million to $250 million, of which more than 60 percent will be finished goods. Of these total deliveries to the USSR, it is estimated that those on trade agreements will account for roughly $67 million and reparations $90 million. The balance will be divided among profits from Soviet-owned assets and Soviet companies and support of Soviet troops in Hungary.

Bauxite is Hungary's most important single export to the Soviet Union. Trade agreements for 1950 called for large deliveries amounting to 700,000 metric tons. Almost all production of the electrotechnical industry,

* This is particularly illustrated in Hungarian-Argentine trade, which is scheduled to amount to $37.4 million annually for each country but which probably is less than $12 million in value for both countries.

** The value of Hungarian trade with Western Europe (1949-50) is shown in a table at the end of this section.

including motors, tubes, cables, telecommunication equipment, radar, etc., is exported to the USSR and constitutes probably as much as 20 percent of Soviet domestic production. Precision and optic equipment, including artillery fuzes and range-finding equipment, constitutes a third major Hungarian export to the USSR. The fourth major export is heavy mechanical equipment, including locomotives and other rolling stock, artillery pieces, tank and armored car assemblies, artillery, and shells and bombs. Hungary also exports to the USSR small vessels, textiles, and foodstuffs, as well as considerable amounts of low octane gasoline.

b. Trade with Other Satellites.

Total trade between Hungary and the other European Satellites is believed to have increased from about $65 million in 1949 to about $170 million in 1950. Hungary imported in 1949 and 1950 more from the Satellites than it exported to them. Hungarian shipments to Czechoslovakia are exceeded only by those to the USSR and are composed of foodstuffs (especially meats, grain, and edible oils); electrotechnical equipment; bauxite and various other minerals, including petroleum and sulphur; textiles; construction materials; chemicals (primarily pharmaceuticals); and small amounts of machinery. Deliveries to Poland follow a similar pattern but with greater emphasis on machinery and certain railway equipment and lesser emphasis on foodstuffs. East Germany, according to the 1950 trade agreement, was to receive some $11 million worth of Hungarian goods, of which about three-fourths would be foodstuffs, meat being the most important single item. Machinery, crude petroleum, and chemicals (largely pharmaceuticals) would constitute the greater part of the remaining one-fourth. Rumania was to import Hungarian locomotives and other rolling stock, petroleum producing equipment, electrical equipment, light bulbs, and heavy industrial gear. Albanian and Bulgarian trade is relatively unimportant to Hungary.

c. Trade with the West.

Hungarian exports to Western Europe amounted to about $122 million in 1949 and about $80 million in 1950. Exports to other non-Bloc areas probably do not exceed 10 percent of those to Western Europe.

Despite trade agreements which call for large quantities of textiles and machine products, deliveries are in the great majority of cases composed of agricultural products, a small amount of textiles, glassware and ceramics, minerals, fuel, and metal products. There are a few exceptions. The Netherlands, for example, received from Hungary in 1949 railroad equipment (to the value of about one-fifth of Hungarian-Netherlands trade for that

year) in return for necessary tin and rubber. Austria receives a slightly larger portion of its Hungarian purchases in textiles and metal products than do most of the OEEC (Organization for European Economic Cooperation) states. Ninety-nine percent of German imports from Hungary are agricultural commodities, as are about 80 percent of Austria's imports, over 90 percent of Italian imports, and 85 percent of Swiss imports. These four countries imported about 70 percent of 1950 Hungarian deliveries to the OEEC.

4. Percentage of Foreign Trade with the Soviet Bloc.

According to an official statement, 1/ Hungary's foreign trade is divided by areas as follows:

Hungarian Foreign Trade
1948-50

Area	1948	1949	1950
	Percent		
USSR	16	32	26 a/
Other Satellites	18	14	33
Non-Bloc Areas	66	54	41
Total	100	100	100

a/ The greater part of these exports is composed of finished goods.

The composition of Hungarian foreign trade is as follows:

Composition of Hungarian Foreign Trade a/
1938 and 1950

Commodity	1938	1950
	Percent	
Raw Materials	59.6	36.2
Semifinished Goods	9.8	10.5
Finished Goods	30.6	53.3
Total	100.0	100.0

a/ Agricultural commodities were 61.8 percent of the total in 1938 and only 37.4 percent of the total in 1950.

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Assuming that these figures are correct and that OEEC trade is 90 percent of non-Orbit trade, the value of Hungarian foreign trade is divided by areas as follows:

Hungarian Imports and Exports
1949-50

Area	Million US Dollars 1949	1950
USSR	144.0	131.9
Other Satellites	64.9	167.4
Non-Bloc Areas	243.3	207.4
Total	452.2	506.7

5. Unilateral Transfers.

Unilateral deliveries by Hungary to the USSR are as follows:

a. Reparations at $30 million a year through 1952.
b. Receipts from jointly owned companies.
c. Receipts from Soviet-owned companies (former German assets).
d. Receipts from stock in the Hungarian General Credit Bank (about 55 percent Soviet-owned), which controlled about 40 percent of Hungarian industries. (The disposition of the Bank is unknown.)

The value and nature of the goods received as a result of this exploitation have not been determined. However, the output of the third largest precision and optical industry in Europe and of an electrotechnical industry with a production rate about one-sixteenth that of the US rate are devoted almost exclusively to goods consigned to the USSR from Hungary.

The following list shows reparations deliveries as planned, at 1938 prices:

[redacted]

Planned Hungarian Reparations 2/
1948-53

	1 July 1948 to 1 January 1953		1 July 1948 to 1 July 1949	
	Million US Dollars	Percent of Total	Million US Dollars	Percent of Total
Machinery	10.6	16.1	2.4	16.7
Railroad Equipment	29.7	45.1	6.4	44.4
Ships	11.6	17.6	2.4	16.7
Semifinished Metal Goods	8.4	12.8	2.0	13.8
Grain and Seeds	0.5	0.8	0.5	3.5
Animals	3.3	5.0	0.5	3.5
Miscellaneous	1.7	2.6	0.2	1.4
Total	65.8	100.0	14.4	100.0

6. Trends—Including Indications of Mobilization for War.

The signing of Soviet Bloc 5-year trade agreements of considerable magnitude has been the most significant factor governing changes in Hungarian trade since 1949. Western controls and world shortages also are probably responsible for the decline in trade between Hungary and the USSR. Thus, trade and expansion within the Soviet Bloc of those items on which emphasis is to be placed should be expected to increase through 1952.

The decline in OEEC trade is primarily the result of two temporary impediments—the 1950 drought and British and Swedish dissatisfaction with Hungarian treatment of both nationals and property. The drought is apparently the most important factor. Dependence on the West will decrease as the industrialization program in the Bloc advances.

Hungarian Trade with Western Europe
1949-50 a/

Thousand US Dollars

Country	Imports a/			Exports a/			Export Surplus	
	1949	1950	Increase or Decrease	1949	1950	Increase or Decrease	1949	1950
Austria	12,892	11,070	-1,822	16,136	9,319	-6,817	+3,244	-1,751
Benelux	11,048	8,500	-2,548	7,609	4,396	-3,213	-3,439	-4,104
Denmark	1,161	1,204	+43	2,500	1,352	-1,148	+1,339	+148
France	5,890	3,123	-2,767	6,860	2,134	-4,726	+970	-989
Greece	N.A.	4	N.A.	8	2	-6	N.A.	-2
Iceland	61	312	+251	55	3	-52	-6	-309
Ireland	176	40	-136	71	36	-35	-105	-4
Italy	6,293	8,330	+2,037	5,172	9,614	+4,442	-1,121	+1,284
Netherlands	5,559	3,612	-1,947	11,101	6,902	-4,199	+5,542	+3,290
Norway	1,115	748	-367	703	1,072	+369	-412	+324
Portugal	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Spain	-	12	+12	N.A.	1	+1	N.A.	-11
Sweden	3,935	623 b/	-3,312	5,514	961 b/	-4,553	+1,579	+338
Switzerland	11,815	11,369	-446	11,490	12,095	+605	-325	+726
Trieste	4	80	+76	1,338	223	-1,115	+1,334	+143
Turkey	3,399	3,769	+370	3,756	5,704	+1,948	+357	+1,935
United Kingdom	17,335	5,453 c/	-11,882	26,320	1,048 c/	-25,272	+8,985	-4,405
West Germany	15,820	31,395	+15,575	23,864	24,141	+277	+8,044	-7,254
Total	96,503	89,644	+6,859	122,497	79,003	-43,494	+25,994	-10,641

a/ A derived table. Hence Hungarian imports are stated f.o.b. exporting country instead of the more usual c.i.f. Hungary. Likewise, Hungarian exports are stated c.i.f. importing country instead of the more usual f.o.b. Hungary. The resulting error is probably 10 percent undervaluation of imports and 10 percent overvaluation of exports.
b/ The result of the Swedish pique at the December 1949 Nationalization Program.
c/ Result of detention of Saunders and December 1949 Nationalization Program.

[redacted]

Principal Hungarian Imports a/
1939 and 1946-48

Commodity	1939	1946	1947	1948	Percentage in 1947 from Soviet Bloc
	Metric Tons				
Corn	-	-	-	340	-
Rice	26,031	-	2,036	-	0
Fruits and Nuts	31,149	437	4,634	3,099	0
Cacao Beans	5,027	63	645	494	0
Tobacco	1,896	376	386	1,807	27
Hides, Skins, and Furs	17,455	984	5,297	5,848	5
Cotton (Raw and Waste)	27,160	12,059	25,826	27,079	35
Jute (Raw and Waste)	3,306	-	1,439	5,007	4
Wool (Raw and Waste)	3,021	1,068	3,453	3,111	20
Cotton, Yarn, and Thread	721	124	181	739	0
Wool Yarn	282	-	704	815	0
Rayon Yarn	4,048	83	1,473	1,034	22
Cotton Fabrics	780	7	-	47	-
Wool Fabrics	592	91	-	170	-
Textile Fabrics	1,334	737	-	1,910	-
Timber and Its Products	525,269	43,270	208,446	1,917	69
Rags	4,052	543	2,404	2,999	7
Paper Pulp	38,919	3,725	16,110	-	36
Paper and Cardboard	44,016	815	4,464	-	61
Crude Rubber	2,644	798	3,358	3,247	2
Coal	263,088	-	131,130	175,811	100
Coke	425,477	203,000	427,576	563,637	100
Petroleum, Crude	1,428	-	-	-	-
Petroleum, Other	24,301	-	11,162	1,936	42
Glassware	3,069	-	-	372	-
Iron Ore	394,632	123,000	578,653	795,291	95
Iron and Steel					
Pig, Scrap, Alloy	115,920	3	-	63,943	-
Other Heavy Steel Commodities	6,410	388	-	12,971	-
Manufactures	3,976	1,737	-	-	-
Copper Alloy	17,448	1,135	4,599	10,586	58
Other Nonferrous Wrought	23,244	1,672	6,453	10,410	78
Nonferrous Metals	835	83	-	132	-
Carbon Electrodes	2,583	-	-	-	81
Machinery, Electric	938	524	1,483	-	13
Machinery, Other	5,473	295	473	-	24

a/ Percentages are unweighted.

[redacted]

[redacted]

Principal Hungarian Imports a/
1939 and 1946-48
(Continued)

Commodity	1939	1946	1947	1948	Percentage in 1947 from Soviet Bloc a/
	Metric Tons				
Vehicles and Parts	7,912	-	51,675	-	2
Oilseeds	8,581	-	-	3,587	-
Chemicals and Cognates	66,677	5,266	112,519	221,783	32
Coal Tar Dyes	1,846	89	1,887	676	4
Synthetic Material	4,509	-	-	315	-
Scientific Instruments	177	2	-	-	-
Tanning Extracts	-	-	4,541	5,579	29
Bearings	-	-	189		1
Total	2,556,490 b/	N.A.	N.A.	2,816,133 b/	

a/ Percentages are unweighted.
b/ Includes exports for which commodity breakdown is unavailable.

[redacted]

V. Agriculture.

Summary

The agriculture of Hungary is conducted largely by primitive household-farming techniques. Before the war, Hungary was an important exporter of grain, livestock, and livestock products, but since the war the production of food has been a difficult problem for the government. The 1950 drought resulted in a drastic reduction in exports, the use of most reserve stockpiles, and the reimposition of rationing. Grain is the most important crop, furnishing over half of the calories in the daily diet and providing exports to the USSR. Sugar also has become an export item, largely as a result of the expansion of sugar beet acreage during the war.

To keep its textile industry in operation in 1950, Hungary had to import almost all its cotton and 65 percent of its wool requirements. Special emphasis is being placed on increasing domestic production of cotton and wool, but it is doubtful whether the cotton program will be successful. Assuming no increase in acreage and average weather conditions, Hungary should, however, produce a considerable food surplus in 1951 and 1952.

1. Grain.

a. Production.

Hungarian grain production in 1948 and 1949 was within 88 and 90 percent, respectively, of prewar levels and represented a postwar peak.* A drought in the 1950 crop year caused a sharp drop in production and probably eliminated any surplus stocks accumulated in the previous years.

Latest Annual Estimates of Grain Production
1948-50

Thousand Metric Tons

Year	Estimate	Probable Range of Variation of Estimate		
1948	5,745	5,442	to	6,047
1949	5,899	5,588	to	6,209
1950	5,334	5,054	to	5,615

* Grain unless otherwise specified includes wheat, rye, barley, oats, and corn (maize).

b. Probable Production.

With normal weather conditions, Hungary should produce a considerable surplus above average domestic requirements in 1951 and 1952, even assuming no sizable increase in acreage.

Estimated Grain Production
1951-52

Thousand Metric Tons

Year	Estimate	Probable Range of Variation of Estimate		
1951	6,073	5,754	to	6,393
1952	6,073	5,754	to	6,393

c. Domestic Requirements.

In average years, Hungarian requirements can be met from domestic production. However, in a drought year rationing is necessary. This occurred in 1950, although the lifting of rationing is expected shortly after the first successful grain harvest. Despite inadequate supplies for civilian consumption, the availability of grain for the Hungarian Army is sufficient to cover ordinary requirements.

Estimated Domestic Requirements of Grain
1948-53

Thousand Metric Tons

Year	Estimate	Probable Range of Variation of Estimate		
1948-49	5,496	5,345	to	5,868
1949-50	5,663	5,486	to	5,818
1950-51	5,336	5,216	to	5,515
1951-52	5,784	5,627	to	5,952
1952-53	5,805	5,648	to	6,973

d. Stockpiles.

There has been no indication of an unusual build-up of stocks from domestic production, and Hungary is believed to have no grain reserves. The 1950 rationing program was probably instituted partly as a preventive measure in anticipation of continued exports and partly as a conservation measure for existing stocks.

Estimated Stockpiles of Grain
1950-51

Thousand Metric Tons

As of	Estimate	Probable Range of Variation of Estimate		
31 July 1950	None	None	to	325
31 July 1951	None	None	to	81

e. Surplus or Deficit.

Hungary should achieve its prewar surplus position in grain production in the next 2 years, assuming normal agricultural patterns and average weather conditions.

Estimated Surplus or Deficit of Grain (Domestic Production)
1950, 1952-53

Thousand Metric Tons

Year Ending	Surplus	Deficit	Probable Range of Variation of Estimate		
31 July 1950	-	2	- 162	to	+ 164
31 July 1952	289	-	+ 127	to	+ 441
31 July 1953	268	-	+ 106	to	+ 420

f. Trends--Including Indications of Mobilization of War.

No increase in grain acreage is expected during the next 2 years. It is anticipated, however, that there will be an increase in grain production if average weather conditions prevail.

The only indication of mobilization for war would be the positive evidence of a build-up of stocks of grain in excess of 3 or 4 months' supply. There is no evidence that such a program is being attempted.

2. Meat.

a. Production.

Meat production in Hungary is presently below the prewar average. Losses sustained through heavy slaughterings in the late war years and early postwar period have retarded a rapid recovery. The considerable improvement in 1950-51 over the low 1948-49 production year has resulted chiefly from increases in hog production, but it will require several years before Hungarian cattle herds are

restored to prewar levels.

Latest Annual Estimates of Meat Production
1948-51

Thousand Metric Tons

Year	Estimate	Probable Range of Variation of Estimate
1948-49	274	258 to 289
1949-50	358	339 to 378
1950-51	370	349 to 391

b. Probable Production.

The decline in estimated meat production for 1951 and 1952 is based on the assumption that heavier and earlier slaughterings of hogs resulted from the 1950 drought. Under a normal cycle of production, supplies by the end of 1952 should reach the level attained in 1949.

Estimated Meat Production
1951-52

Thousand Metric Tons

Year	Estimate	Probable Range of Variation of Estimate
1951	329	311 to 348
1952	359	339 to 379

c. Domestic Requirements.

Hungarian meat production is able to satisfy domestic requirements and to provide a small surplus for export.

Estimated Domestic Requirements of Meat
1948-53

Thousand Metric Tons

Year	Estimate	Probable Range of Variation of Estimate
1948-49	264	248 to 279
1949-50	340	321 to 360
1950-51	356	322 to 377
1951-52	318	297 to 337
1952-53	349	320 to 369

[redacted]

d. Stockpiles.

Judging from the production and consumption rate, it is unlikely that any sizable stockpiles could be accumulated in 1950 and 1951.

e. Surplus or Deficit.

There is a small surplus of meat in Hungary. Exports, from all indications, should increase in 1951 and 1952, but the average prewar export rate, which totaled 15 percent of domestic production, will not be reached by 1953.

Estimated Surplus of Meat (Domestic Production)
1951-53

Thousand Metric Tons

Year Ending	Estimate	Probable Range of Variation of Estimate
31 July 1951	N.A.	
31 July 1952	11.0	10.6 to 14.3
31 July 1953	10.4	9.8 to 14.0

f. Trends—Including Indications of Mobilization for War.

The trends in production of meat are closely tied to trends in the production of grain. Since there probably will be a small increase in grain production, a small increase in meat production may also be anticipated.

3. Sugar.

a. Production.

Sugar production in Hungary increased considerably during World War II. This trend has continued in the postwar period, so that Hungary is now not only self-sufficient but also an exporter of sugar.

Estimated Production of Raw Sugar
1948-50

Thousand Metric Tons

Year	Estimate	Probable Range of Variation of Estimate
1948	242	218 to 266
1949	265	238 to 291
1950	218	195 to 239

[redacted]

b. Probable Production.

The drought of 1950 eliminated sugar output gains of the previous year, but plans indicate that every effort will be made to attain a sugar production of 300,000 metric tons by 1953. Under normal agricultural conditions the estimated production of raw sugar should by 1952 again reach the 1949 postwar production peak of 264,900 metric tons.

Estimated Production of Raw Sugar
1951-52

Thousand Metric Tons

Year	Estimate	Probable Range of Variation of Estimate		
1951	246	211	to	270
1952	265	238	to	291

c. Domestic Requirements.

The estimated annual consumption of sugar in Hungary varies between 11 and 15 kilograms per capita, and this quantity can be supplied from domestic production. In the latter part of the present consumption year (1950-51), rationing was reintroduced, but even under rationing per capita consumption is equivalent to the prewar average. Rationing probably was instituted because of the low sugar production in 1950 and the necessity of fulfilling export commitments to the USSR.

Estimated Domestic Requirements of Raw Sugar
1948-53

Thousand Metric Tons

Year	Estimate	Probable Range of Variation of Estimate		
1948-49	119	106	to	130
1949-50	147	132	to	162
1950-51	120	109	to	132
1951-52	131	117	to	144
1952-53	160	135	to	165

d. Stockpiles.

The anticipated increase in production will probably lead to the accumulation of reserves for stockpiles. A stockpile of 36,800 metric tons is anticipated by 31 July 1951.

e. Surplus or Deficit.

Domestic production of raw sugar in 1950-51 exceeded consumption by 97,000 metric tons. Although some of this surplus may be stockpiled within Hungary, it is probable that the greater part will be sent to the USSR.

f. Trends--Including Indications of Mobilization for War.

The projected expansion of sugar beet production in Hungary is doubtless in conformity with the planned self-sufficiency of the Bloc. If production reaches the 1953 goals, domestic reserves can be accumulated and supplies made available to the USSR. The production and stockpiling of cube sugar probably would be the main indicator of mobilization for war. To date there has been no evidence that this has taken place.

4. Cotton.

a. Production.

Special efforts are being made to produce cotton in Hungary in line with the Bloc policy of becoming self-sufficient in fibers. Production figures in the tables below indicate the limited progress made in 1949 and 1950:

Latest Annual Estimates of Cotton Production
1948-50

Metric Tons

Year	Estimate	Probable Range of Variation of Estimate
1948	None	None
1949	32	30 to 34
1950	561	505 to 617

b. Probable Production.

The following estimated production figures for 1951 and 1952 are based on planned program of cotton production, which is considered far too ambitious to be fully accomplished:

Estimated Cotton Production
1951-52

Metric Tons

Year	Estimate	Probable Range of Variation of Estimate
1951	5,402	5,098 to 5,706
1952	5,670	5,103 to 6,237

c. Domestic Requirements.

Hungary is largely dependent upon imports of raw cotton to satisfy domestic requirements. Approximately 58 percent of present supplies (1950-51 consumption year) were imported from the USSR, the remaining 42 percent coming from other world producers.

Estimated Domestic Requirements Ginned Cotton
1948-52

Metric Tons

Year	Estimate	Probable Range of Variation of Estimate
1948	21,000	18,000 to 23,100
1949	23,000	20,700 to 25,300
1950	24,250	21,825 to 26,675
1951	24,500	22,050 to 26,950
1952	24,750	22,275 to 27,025

d. Stockpiles.

It is highly unlikely that any significant stockpiles of raw cotton have been accumulated in Hungary.

e. Surplus or Deficit.

Hungary is almost completely dependent upon imports of raw cotton to satisfy textile requirements, but sources of supply are open, a fact which increases Hungarian dependence on the USSR.

Estimated Deficit of Raw Cotton (Domestic Production)
1951-52

Metric Tons

Year	Estimate	Probable Range of Variation of Estimate
1951	23,689	21,021 to 26,357
1952	19,000	17,172 to 20,988

Despite present claims of success in producing cotton in Hungary, it is doubtful whether even the 30-percent self-sufficiency planned by 1954 can be achieved, since Hungary is not a region adapted to cotton growing.

There are at present no serious shortages of processing facilities that would prohibit or limit the manufacture of finished yarns or cloths needed for domestic consumption. The present textile equipment in operation is capable of covering all domestic needs by working two 10-hour shifts a day and could increase output by 16 percent by operating on a 24-hour basis.

f. Trends--Including Indications of Mobilization for War.

Efforts to become more self-sufficient in fiber crops and fibrous material are being increased. New construction and the reconstruction of old and damaged mills have taken place, and equipment facilities have been improved through foreign purchases as well as through some integration of processing. This improvement will permit higher production and better utilization of machinery if raw materials become available in larger quantities.

There have been no indications of mobilizing the cotton textile industry for war. The first indication of such mobilization would be for the industry to operate with two or three shifts a day.

5. Wool.

a. Production.

Wool production decreased considerably during World War II and the postwar period. Estimated production for 1950 represents only 60 percent of the 1935-39 level because of the heavy decimation of the sheep flock and the slow rate of its recovery.

Latest Annual Estimates of Wool Production (Clean Basis)
1948-50

Metric Tons

Year	Estimate	Probable Range of Variation of Estimate
1948	1,347	1,212 to 1,481
1949	1,497	1,358 to 1,646
1950	1,641	1,476 to 1,805

b. Probable Production.

Further increases are expected in 1951 and 1952, but total production will still be less than prewar output. Extensive breeding and selection of the flock could improve Hungary's deficit position in imported fine wools, but it is doubtful that this is being done on a scale sufficient to show material improvement.

Estimated Wool Production (Clean Basis) a/
1951-52

Metric Tons

Year	Estimate	Probable Range of Variation of Estimate
1951	1,805	1,624 to 1,985
1952	1,895	1,706 to 2,084

a/ Production figures are based on planned numbers of sheep at prewar fleece weights.

c. Domestic Requirements.

Hungarian wool requirements cannot at present be satisfied by domestic production. In fact, the actual demand for wool products is probably much higher than present availabilities, including imports. The latter in 1950 amounted to about 65 percent of total needs.

Estimated Domestic Requirements of Wool (Clean Basis)
1948-52

Metric Tons

Year	Estimate	Probable Range of Variation of Estimate
1948	3,665	3,115 to 4,215
1949	4,103	3,388 to 4,718
1950	4,559	3,876 to 5,242
1951	5,015	4,263 to 5,767
1952	5,471	4,651 to 6,291

Although supplies of raw wool are deficient, the textile processing equipment available in Hungary is capable of increasing output. This could be accomplished either by full utilization of all existing machinery or by extending the working shift to 24 hours.

d. Stockpiles.

There is no evidence of any accumulation of stockpiles of wool.

e. Surplus or Deficit.

The Hungarian wool deficit, which must be met by imports, is about 65 percent of total needs. If Western sources agreed to restrict further wool supplies, the effects on living standards in Hungary could become serious.

Estimated Deficit of Wool (Domestic Production--Clean Basis)
1950 and 1952

Metric Tons

Year	Estimate	Probable Range of Variation of Estimate
1950	2,918	2,626 to 3,209
1952	3,576	3,218 to 3,933

6. Collectivization.

More than any other Balkan country, prewar Hungary was a land characterized by large estates which produced the bulk of the marketable grain. In 1935, less that 0.1 percent of the land holdings comprised 29 percent of the land, making land reform a necessity to satisfy the land-hungry peasants. In the beginning of socialization of the national economy the government concentrated on other branches of industry, leaving the peasant more or less to his own

devices in producing food for himself and for the nonfarm population. Steps toward collectivization were not taken until the middle of 1948 and have proceeded very slowly since then. By October 1950, the latest date for which information is available, only 6.7 percent of Hungary's tillable land was cultivated by so-called "Production Cooperatives." Following the acute shortage of farm products, worsened by the 1950 drought, the Ministry of Agriculture announced that after 10 March 1951 it would not grant further permission for the creation of new producer's cooperatives (collectives). For the present, therefore, the peasants are being left on their own to produce urgently needed food.

VI. Industrial Capacity and Levels of Production.

A. Ferrous Metals.

Summary

Hungary's iron and steel industry is dependant upon a constant flow of imports of raw materials. Coke is produced for domestic use from Hungarian coal, but the ferrous metals industry is dependant upon imports for requirements of metallurgical coke. A low-quality iron ore is mined in Hungary, but a large proportion of that consumed must be procured abroad, principally from the USSR. Except for manganese and silicon, no ferroalloys are produced. Procurement of iron and steel scrap from abroad is basic to the iron and steel industry, but there is a world-wide scrap shortage. Hungarian practice is to use 60 to 65 percent scrap in furnace charges, in contrast to the US practice of using 50 percent in open-hearths. Production of pig iron, raw steel, and special steels do not meet requirements of the economy and must be augmented by imports.

Increased production in the iron and steel industry is a primary target of the Five Year Plan. Beginning in 1951, some 85 percent of iron and steel production will be allocated for military use. Iron and steel production fell short of the goals of the completed Three Year Plan, and it is believed that the goals of the new Five Year Plan will not be achieved. To achieve Plan targets, a large investment must be made in the ferrous metals industry, but no important extensive facilities at existing steel plants are included in the Five Year Plan. However, existing raw material sources are to be expanded and modernized, and new steel plants are to be constructed. Exploration is to be conducted for new mineral deposits. A new mill site has been selected at Dunapentele, but the installation is not expected to be in operation by 1954.

To date little assistance in building installations and few imports of machinery and equipment have been received from the USSR.

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1. Production.

Although output of the Hungarian ferrous metals industry increased from 1948 to 1950, the increment was not appreciable. The production of all materials listed, with the exception of pig iron, fell short of the targets, and output of iron ore was particularly low.

Estimated Production of Ferrous Metals
1948-50

	Thousand Metric Tons		
	1948	1949	1950
Metallurgical Coke	None	None	None
Iron Ore (35-39% Fe)	250	250	300
Ferroalloys			
Fe-Manganese	N.A.	N.A.	N.A.
Fe-Silicon	N.A.	N.A.	N.A.
Pig Iron	398	400	425
Raw Steel	747	750	775
Rolled Products	450	500	525

These estimates indicate that production will increase slightly during the next 2-year period. In all cases, however, targets probably will not be met. Output of iron ore and manganese is expected to be appreciably short.

2. Estimated Possible Production and Capacity.

Estimated Production and Capacity of Ferrous Metals
1951-52

	Thousand Metric Tons			
	1951	1952	Capacity	1952 Plan Target
Metallurgical Coke	None	None	None	200
Iron Ore (35-39% Fe)	350	400	N.A.	1,250
Iron and Steel Scrap	N.A.	N.A.	N.A.	N.A.
Ferroalloys				
Fe-Manganese	N.A.	2	N.A.	12
Fe-Silicon	N.A.	2	3,000	4
Pig Iron	450	475	N.A.	500
Raw Steel	800	825	N.A.	1,000
Rolled Products	550	575	N.A.	N.A.

3. Domestic Requirements.

Estimates of requirements for most of the raw materials listed in the following table were derived from amounts required to produce planned targets:

Estimated Domestic Requirements of Ferrous Metals
1949-50

Metric Tons

	1949	1950
Metallurgical Coke	500,000	500,000
Iron Ore	800,000	800,000
Iron and Steel Scrap	400,000	400,000
Ferroalloys		
Manganese (Standard Grade)	40,000	40,000
Fe-Chrome (69% Cr)	900	900
Fe-Molybdenum	60	60
Fe-Tungsten	110	110
Fe-Vanadium	65	65
Nickel	200	200
Pig Iron	N.A.	N.A.
Raw Steel	750,000	750,000
Rolled Products	500,000	500,000

4. Stockpiles.

Hungary's ferrous metals industry had no stockpiles in 1950.

5. Surplus or Deficit.

The following table shows a deficit in all commodities, particularly in coke, iron ore, manganese, and pig iron. Imports come chiefly from other Satellite countries, the USSR, Norway, and Austria. In the case of rolled products, although a deficit exists, some of the material is used as barter to obtain needed raw materials.

Estimated Deficits of Ferrous Metals
1950-52

	1950	Metric Tons 1951-52
Metallurgical Coke	500,000	600,000
Iron Ore	500,000	550,000
Iron and Steel Scrap[a]/	N.A.	N.A.
Ferroalloys		
Manganese	10,000	12,000
Fe-Chrome (69% Cr)	900	1,000
Fe-Molybdenum	60	70
Fe-Tungsten	110	125
Fe-Vanadium	65	75
Nickel	200	225
Pig Iron	60,000	65,000
Raw Steel	N.A.	N.A.
Rolled Products	N.A.	N.A.

a/ In short supply throughout the Orbit.

6. Internal Limitations.

The Hungarian iron and steel industry is operating under many serious handicaps. Raw materials received from the USSR have not been satisfactory. Iron ore, for example, although containing a high percentage of iron, has been received as "fines" and has required sintering, or agglomerating, before it can be used in blast furnaces. Moreover, the flow of ferroalloys from the Soviet Union has not satisfied demands, necessitating attempts to supplement Soviet shipments with purchases in Western European markets. Both the mining and the steel industries are handicapped by worn and obsolescent equipment and machinery, and there is a lack of modern industrial techniques and skill. The industries are poorly organized, and the Ministry of Heavy Industry is constantly attempting to regroup and reorganize them in an attempt to reduce operating losses. With increased pressure on plants to speed up production, there has been an alarming rise in the wastage of raw materials and in the percentage of rejects of finished products. All these factors have contributed to the failure to meet targets of both the Three Year Plan and the first year of the Five Year Plan.

7. Trends--Including Indications of Mobilization for War.

No substantial increase is expected in the output of the Hungarian iron and steel industry during the present Five Year Plan. The integrated mill recently planned at Dunapentele on the Danube south of Budapest, which is scheduled to use Krivoi Rog iron ore shipped via the Black Sea and the Danube River, will not be completed by 1954. No important extension of facilities at existing steel plants are included in the Five Year Plan. In December 1950 the Minister of Heavy Industry held a secret meeting with directors of iron and steel plants and gave the following orders: all plants to operate on a three-shift basis; workers to be placed under military discipline; output to be checked each day to insure that production conforms with the Plan; 85 percent of output to be reserved for military uses, effective 1 January 1951; and all industry to be supervised by a committee of Soviet controllers. These regulations will probably result in some tangible gains in production, but they will be of little use in the attainment of the unrealistic targets established by the Five Year Plan.

B. Nonferrous Metals.

Summary

Hungarian production of nonferrous metals from indigenous ores is relatively unimportant except for aluminum and antimony. Aluminum production in 1950 reached 13,000 metric tons, and capacity is expanding so rapidly that by 1952 output should reach 25,000 metric tons. The supply of raw materials is adequate to meet this accelerated program. Domestic aluminum requirements in 1950 are estimated at 10,000 tons and in 1952 at 15,000 tons, the surplus being available to the Soviet Bloc. Hungary is self-sufficient in antimony, but production of copper, lead, and zinc is relatively insignificant. Annual import requirements are estimated at 12,000 metric tons of copper in 1950-52, 7,500 tons of lead and zinc in 1950, and 10,000 tons of lead and zinc in 1951-52.

1. Copper.

a. Production.

Production of copper from Hungarian ores is insignificant, the latest figures available indicating a production of about 300 metric tons in 1948. 1/ Since enlargement of present facilities appears unlikely, annual copper production by 1952 is not expected to exceed 500 metric tons. 2/

b. Domestic Requirements.

Requirements, estimated at 12,000 metric tons in 1949, are expected to remain unchanged through 1952. Hungary's almost complete reliance on imports of copper makes stockpiling highly improbable.

c. Internal Limitations.

The only known copper deposit is in the Recsk district. The ore averages about 0.7 percent copper, so that, although ore reserves have been estimated at 1 million metric tons, their total copper content is only some 7,000 tons.

d. Trends--Including Indications of Mobilization for War.

The basic shortage of domestic copper will force Hungary to rely heavily on imports from the Soviet Bloc to meet industrial requirements.

2. Lead and Zinc.

a. Production.

Production of lead and zinc is estimated at from 100 to 200 metric tons a year and is not expected to increase in 1951 and 1952.

b. Domestic Requirements.

Hungarian requirements for 1949 were reported to be 7,400 metric tons of lead and 7,200 tons of zinc, plus 3,700 tons of lead and 3,600 tons of zinc as 6 months' reserves. 3/ Consumption of lead and zinc in 1947 was reported to have been about 5,000 tons and about 4,000 tons, respectively.

Estimated Domestic Requirements of Lead and Zinc
1948-52

Metric Tons

	1948	1949	1950-52
Lead	6,000	7,400	7,500 to 10,000
Zinc	6,000	7,200	7,500 to 10,000

c. Stockpiles.

Since shipments from Yugoslavia have stopped, it is likely that the small zinc stocks, reported as 3,955 metric tons in 1947, are exhausted. No stockpiles of lead are believed to exist.

d. Internal Limitations.

Lead minerals are found with the gold-silver ores of the Nagyborzsemy mines, and both lead and zinc minerals are associated with the gold-silver ores of the Gyongyosorossi mine. Ore of the Gyongyosorossi mine, which is considered high-grade, averages about 2.5 percent lead and 5 percent zinc. Ore reserves are estimated at about 300,000 metric tons. 4/

e. Trends--Including Indications of Mobilization for War.

Since domestic production of lead and zinc is negligible, Hungary must continue to import heavily from the Soviet Bloc in order to implement its industrialization program.

3. Aluminum.

a. Production.

Aluminum production in 1950 reached 13,000 metric tons, or 500 tons above the planned output.

b. Estimated Possible Production and Capacity.

Productive capacity of the Hungarian aluminum industry is expanding rapidly. Capacity in 1951 is estimated at about 20,000 metric tons a year and by 1952 should reach 25,000 tons annually.* Production is estimated at 18,000 tons in 1951 and at 20,000 tons in 1952.

c. Domestic Requirements.

Domestic requirements are estimated at 10,000 metric tons in 1950, 13,000 tons in 1951, and 15,000 tons in 1952.

d. Stockpiles.

Aluminum stocks as of 1 January 1950 are estimated at 4,500 metric tons.

e. Surplus or Deficit.

The total supply of aluminum in Hungary in 1950 is estimated at 17,500 metric tons, and, as requirements are only 10,000 tons,** there is a surplus of 7,500 tons available to the USSR or the other Satellites. This surplus in 1952 is estimated at 10,000 tons. These surpluses for 1950 and 1952 represent 5 percent and 3.7 percent, respectively, of the total Soviet output.

f. Internal Limitations.

Adequate supplies of bauxite and other raw materials for the production of aluminum are available in Hungary. The only shortage may be in replacement parts for the mechanical equipment required in the aluminum oxide and aluminum plants. These parts will have to be obtained from the USSR or the Western countries.

It is estimated that in 1949 about 500,000 metric tons of Hungarian bauxite were shipped to the USSR. This amount was apparently equal to one-third of total Soviet requirements. In 1950 a trade agreement called for shipments of 700,000 tons, which would supply more than one-half of Soviet requirements. Most of this possibly was used in the production of aluminum and the remainder in the manufacture of synthetic aluminum oxide abrasives.

g. Trends--Including Indications of Mobilization for War.

The planned expansion of the aluminum industry in Hungary is part of the Soviet program to make the Soviet Bloc self-sufficient in minerals and

* Estimate based on plants in operation in 1950 and current expansion program.
** Estimate based on 1947 planned production and consumption.

and mineral products. It is believed that most of the increased aluminum production will be utilized in the Hungarian aircraft industry, which is now being expanded to assemble military aircraft for the USSR.

4. Other Nonferrous Metals.

a. Antimony.

Information on production of antimony in Hungary in recent years is lacking. Estimated production in 1941 was 3,000 metric tons but dropped to 1,160 tons in 1944. 5/ It is believed, however, that production of antimony in Hungary is sufficient to meet domestic requirements.

b. Tin.

Hungary does not produce tin, and any requirements are supplied by the Soviet Bloc, including Communist China, or countries outside the Bloc. In 1949, Hungary imported 473 long tons of tin from the Netherlands and 50 tons from Malaya, and in 1950 173 tons were imported from the Netherlands. 6/

[redacted]

C. Coal.

Summary

Coal is the source of at least 75 percent of the energy consumed in Hungary and is a key factor in industrialization plans. Coal production increased from 11.5 million metric tons in 1949 to about 13 million metric tons in 1950. Output in 1949 consisted of approximately 82.5 percent brown coal, 11.2 percent bituminous coal, and 6.3 percent lignite. Although lignite is low in heating value, its importance should increase considerably because of expanding use for power purposes.

Since Hungarian production of bituminous coal is never sufficient to satisfy requirements, small amounts must be imported, as must almost all of the coke that is used. Imports in 1949 amounted to 140,700 metric tons of coal and 545,400 tons of coke, principally of metallurgical grade, and in 1950 about 160,000 tons of coal and 600,000 tons of coke were imported. Deficiencies are expected to increase when new blast furnaces and coke ovens of the Mohacs industrial combine are completed.

These deficiencies may be met in part by conservation programs and by higher production targets. Plans call for coal output to increase 20 percent in 1951, and the goal for 1954 has been raised from 18.5 to 27.5 million metric tons, but recurring labor and production problems are likely to make these goals unattainable. Output probably will be about 15 million tons in 1951 and 17 million tons in 1952.

The requirements pattern for 1949 showed that coal was to have been distributed according to tonnage approximately as follows: mine use, 6.5 percent; railroads (excluding fuel supplied to employees), 18.3 percent; electric power, 21.5 percent; iron and machine and tool industries, 18.7 percent; other industries, 18.3 percent; river shipping, 1.7 percent; and heating, 15 percent. Requirements in 1950 are believed to have been at least 25 percent higher than in 1949, and the deficiencies in production were met from stockpiles accumulated in the previous year.

Indications are that coal will continue to be in short supply in Hungary, but the extent of deficiencies will depend mainly on whether new facilities in the electric power and ferrous metals industries are completed as scheduled.

[redacted]

1. Production.

Coal is the source of at least 75 percent of the energy consumed in Hungary. Reserves, as well as production, consist predominantly of brown coal. The output of bituminous coal is never sufficient to satisfy requirements, and it is necessary to import small amounts of it, as well as most of the coke that is used.

Production was 10.6 million metric tons in 1948, 1/ 11.5 million tons in 1949, 2/ and about 13 million tons in 1950. 3/ Output in 1949 consisted of approximately 9.5 million tons (82.5 percent) of brown coal, 1.3 million tons (11.2 percent) of bituminous coal, and 725,000 tons (6.3 percent) of lignite. 4/

Brown coal is mined in the northern part of the country. The Tatabanya and Borsod districts produce nearly equal tonnage and together furnished nearly 48 percent of the total coal output and 58 percent of the brown coal output in 1949. The best brown coal is produced in the Esztergom district in the vicinities of Dorog and Tokod.

All bituminous coal is produced in the Mecsek district in southwestern Hungary. The coals in this area are predominantly of high volatility and are suitable for steam purposes. However, the coals are exceptionally friable, and about 70 percent of the output consists of fine sizes (under 10 mm.).

Lignite is mined at Rozsaszentmarton in the Matra Mountains and at Varpalota. A large modern mine started production at Rozsaszentmarton in the fall of 1949, and although the coal is low-grade, output is scheduled to expand considerably.

The following table shows by districts and localities the approximate average daily production that was planned for 1949. Total output was expected to be about 11,476,000 metric tons on the basis of 302 days of operation. This figure is only slightly less than the reported production for the year.

[redacted]

Planned Average Daily Production of Coal by Districts (Hungary) 5/
1949

	Production (Thousand Metric Tons)	Percent of Total
Bituminous Coal		
Southwestern District		
Pecs	2,700	7.10
Komlo	700	1.84
Szaszvar, Nagymanyok, and Maza	600	1.58
Subtotal	4,000	10.52
Brown Coal		
Brennburg District	300	0.79
Tatabanya District	9,100	23.95
Esztergom District		
Dorog and Tokod	3,650	9.61
Ebszony	200	0.53
Mogyoros	150	0.39
Pilis District a/	600	1.58
Nograd District b/	5,200	13.68
Ajka District	1,400	3.69
Dudar District	400	1.05
Kisgyon District	500	1.32
Mor District c/	700	1.84
Borsod District	9,000	23.68
Subtotal	31,200	82.11
Lignite		
Varpalota District	1,700	4.47
Matra-Bukk District		
Rozsaszentmarton	1,100	2.90
Subtotal	2,800	7.37
Total	38,000	100.00

a/ Pilisszentivan and Nagykoracski.
b/ Nagy-Batony, Salgotargan, and Rima.
c/ Pusztavam and Mor.

[redacted]

[redacted]

2. Estimated Possible Production and Capacity.

Coal is a key factor in Hungary's plans for raising industrial output. The objective for the coal industry in 1951 is about 15.6 million metric tons, but the Plan for the first quarter was fulfilled only 96.2 percent. 6/ Serious labor and production difficulties may make planned goals difficult to attain. Production, therefore, probably will not exceed 15 million tons in 1951 and 17 million tons in 1952.

3. Domestic Requirements.

Allocations of the planned total production of 11,476,000 tons of coal for 1949 were estimated to be as follows 7/:

Allocations of Coal (Hungary)
1949

User	Allocation (Thousand Metric Tons)	Percent of Total
Coal Mines and Corollary Installations	700	6.80
Hungarian State Railroads, Locomotives, and Installations	1,800	17.48
Hungarian State Railroads, Allotments to Employees	300	2.91
Other Railroads	100	0.97
River Shipping	180	1.75
Electric Power Plants	2,250	21.85
Iron, Machine and Tool Industries	1,800	17.48
Construction Industries, including Brick, Limestone, and Cement Plants	550	5.34
Textile Industry	300	2.91
Chemical Industry	200	1.94
Rubber Industry	30	0.29
Leather Industry	50	0.49
Glass and Ceramics Industry	96	0.93
Sugar Refineries	250	2.43
Flour Mills	100	0.97
Alcohol and Yeast Industries	50	0.49
Canning and Other Food Industries	50	0.49
Operation of Agricultural Machinery	50	0.49
Gas for Public Utilities	40	0.39
Oil Industry	10	0.10
Beer Industry	50	0.49
Other Industries	10	0.10
Flood Control	30	0.29

[redacted]

Allocations of Coal (Hungary)
1949
(Continued)

User	Allocation (Thousand Metric Tons)	Percent of Total
Private and Central Heating Systems	1,100	10.68
Public Buildings, Schools, Hospitals	200	1.94
Subtotal (Planned Consumption)	10,296	100.00
Reserve Supply, Including Exports	1,180	
Total (Planned Production)	11,476	

Since production in 1949 was reported to have been 11,500,000 metric tons, the consumption pattern may have followed that given in the foregoing table, although 140,700 tons of bituminous coal were imported, chiefly for the iron and steel industry.

The significant gains registered in 1950 as compared with 1949 in railroad freight traffic (22.9 percent) and in the output of electric power (18.4 percent), iron and steel (17.8 percent), bricks 38.1 percent), lime 38.1 percent), and cement (44.2 percent) 8/ indicate that coal requirements of the major consumers increased substantially. Sales of coal for domestic heating were 34.8 percent higher in the first 7 months of 1950 than in the same period of 1949. 9/

A forecast of coal requirements through 1952, especially for the major consumers, is difficult, being based on fragmentary information on the extent of increase in industrial development in 1950. However, it is probable that industrial demands will exceed coal supplies and that shortages will result.

The following table, based largely on the Plan figure for 1949, furnishes estimates of the availability and requirements of coal for the period 1948-1952. However, stocks are estimated to have increased only 800,000 metric tons in 1949 rather than the 1 million tons indicated in the Plan.

[redacted]

Estimated Hungarian Availability and Requirements of Coal 1948-52

Thousand Metric Tons

	1948	1949	1950	1951	1952
Bituminous Coal					
Production	1,238	1,290	1,450	1,600	1,800
Stocks (as of 1 Jan)	100	100	100	100	125
Imports	123	141	160	200	200
Subtotal	1,461	1,531	1,710	1,900	2,125
Exports	10	10	-	-	-
Stocks (as of 31 Dec)	100	100	100	125	150
Total	1,351	1,421	1,610	1,775	1,975
Brown Coal and Lignite					
Production	9,360	10,210	11,550	13,400	15,200
Stocks (as of 1 Jan)	150	200	1,000	300	400
Imports	-	-	-	-	-
Subtotal	9,510	10,410	12,550	13,700	15,600
Exports	130	150	50	50	50
Stocks (as of 31 Dec)	200	1,000	300	400	450
Total	9,180	9,260	12,200	13,250	15,100
Total Availability	10,531	10,681	13,810	15,025	17,075
Requirements					
Coal Mines	700	700	800	850	1,000
Railroads a/	1,950	1,950	2,600	2,800	3,100
River Shipping	180	180	200	220	240
Electric Power	2,225	2,300	2,950	3,400	3,900
Iron, Machine, and Tool	1,925	2,000	2,500	2,700	3,200
Cement, Brick, and Lime	550	550	800	900	1,100
Other Industries	1,370	1,370	1,800	1,950	2,200
Flood Control	30	30	30	30	30
Domestic Heating	1,601	1,601	2,130	2,175	2,305
Total Requirements	10,531	10,681	13,810	15,025	17,075

a/ Excluding fuel for employees, which is including with domestic heating.

[redacted]

[redacted]

4. Stockpiles.

Coal stocks, including working inventories, probably did not exceed an average months's requirements, even in the peak year of 1949. Stocks on hand were reported to be only 92,120 metric tons in June 1947 and 26,000 tons in June 1948. 10/ Stocks were very low in the winter of 1950, when railroads were reduced to about 1 week's supply.

Hungarian coal is generally of such poor quality for storage purposes that stocks are never likely to be significant. Furthermore, it is doubtful that production can keep pace with industrial demands through 1952.

5. Surplus or Deficit.

Imports from Poland and Czechoslovakia, 11/ the principal suppliers, amounted in 1949 to 140,700 metric tons of coal and 545,400 tons of coke, principally of metallurgical grade. 12/ An estimated 160,000 tons of coal and 600,000 tons of coke were supplied in 1950, and approximately 50,000 tons of brown coal were imported from Austria. If the two blast furnaces of the Mohacs industry begin operation by 1952, approximately 750,000 tons of coke must be imported annually.

6. Internal Limitations.

The coal industry is faced with serious labor problems that hamper production. There is a shortage of skilled miners, and low wages discourage new workers from entering the mines voluntarily. Absenteeism is high because of poor working conditions and because a large proportion of the miners devote part of their time to farming. Approximately 25,600 metric tons a month were lost through absenteeism in 1950, 13/ and the rate of absenteeism in the first quarter of 1951 has nearly doubled over that of early 1950. 14/

7. Trends--Including Indications of Mobilization for War.

Despite a production increase of 13 percent in 1950 over 1949, coal shortages were reported in the fall of 1950. 15/ A similar pattern of demands exceeding supplies may be expected through 1952.

[redacted]

D. Petroleum.

Summary

Hungarian petroleum production has declined steadily in the post-war period. In 1950, about 500,000 metric tons of crude oil were produced as compared with a goal of 660,000 tons. Wasteful practices preclude any sizable increase in the output of the known fields. Production in 1951 and 1952 may reach 510,000 and 520,000 tons, respectively.

The refineries have an annual capacity of 1 million tons. Some crude oil may be imported in 1951 and 1952 for refining. Only one small thermal cracking unit is believed to be in operation. Output may increase from about 435,000 metric tons in 1950, to 510,000 in 1951, and to 540,000 tons in 1952.

Output of petroleum products in 1950 exceeded domestic requirements of about 287,000 tons, but some imports of high-grade products were necessary. Approximately 85,000 tons of aviation gasoline, aviation and motor oils, and diesel fuel were imported in 1950 from the USSR, Rumania, and Austria. Hungary exported about 200,000 tons of straight-run aviation gasoline, motor gasoline, kerosene, gas oil, and fuel oil to the USSR, Poland, and Czechoslovakia. The remaining surplus of petroleum products, 30,000 tons, was added to existing stocks.

Shortsighted Soviet and German methods of operation have almost exhausted Hungary's oil fields. The USSR recently has been carrying on extensive exploration in the eastern part of Hungary in an attempt to replenish reserves. Hungary's exportable surplus is so small that it contributes very little to the economy of the Soviet Bloc.

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1. Production and Estimated Possible Production and Capacity.

Virtually all of the crude oil produced in Hungary comes from the Lispe oil fields at the southwest end of Lake Balaton. Less than 1 percent has been produced at Bukkszek in the Matra mountains in north-eastern Hungary. The estimated production by fields 1/ is shown in the following table:

Estimated Petroleum Production by Fields
1950-52

Field	1950	1951	1952	Percent of Total
	(Thousand Metric Tons)			
Lovassi	300	306	312	60
Budafapaszta	150	153	156	30
Hahot	50	51	52	10
Total	500	510	520	100

Numerous reports of the discovery of extensive oil deposits near Debrecen 2/ in eastern Hungary indicate a possible rehabilitation of the industry, but it is not known whether these fields are in production.

Hungarian refining capacity is capable of handling twice as much crude oil as is produced domestically. The plants are all pre-World War II facilities that were expanded by the Germans, and although considerable war damage was sustained, the most important refineries either have been or are being reconstructed. Only one of the plants has cracking facilities, and these are thermal. The estimated annual capacity of the refineries is shown in the following table 3/:

Annual Capacity of Principal Refineries

Location	Name	Thousand Metric Tons	
		Distillation	Cracking
Szony	Molaj	300	-
Almasfuzito	Vacuum	200	-
Csepel Island	Shell-Koolaj	200	-
Petfurdo	Magyar-Hydro-Benzin Peti	150	30
Budapest	Magyar	60	-
Budapest	Fanto	60	-
Szoreg (Szeged) a/	Szoreg	20	-
Nyirbogdany	Nyirbogdany	20	-
Total		1,010	30

a/ May be closed down.

Some crude oil may be imported in 1951 and 1952 to enable Hungary to meet its export commitments. It is estimated that 500,000 metric tons of crude oil were refined in 1950 and that 590,000 tons and 620,000 tons will be refined in 1951 and 1952, respectively. The following products will be obtained 4/:

Estimated Production of Petroleum Products
1950-52

Products	Thousand Metric Tons 1950	1951	1952
Aviation Gasoline a/	16	19	20
Motor Gasoline	124	146	154
Kerosene	90	106	112
Diesel and Other Distillators	80	94	99
Fuel Oil	110	130	136
Lubricants	10	12	12
Other	5	6	6
Total	435	513	539

a/ The aviation gasoline is straight-run with an octane rating of 70.

2. Domestic Requirements.

Consumption for civilian purposes was less in 1950 than in the years immediately before World War II. Estimates of consumption by major products and principal consumers, based on allocations reported for a number of months in 1949, are shown in the following table 5/:

[redacted]

Civilian Consumption of Petroleum Products
1949

Consumer	Gasoline	Kerosene	Diesel, etc.	Lubes	Total
	Thousand Metric Tons				
Industry	16.9	6.1	21.1	3.8	48.3
Road Transport	69.1	-	18.2	3.2	90.5
Shipping	3.3	-	3.2	0.3	6.8
Air Transport	3.2	-	-	0.1	3.3
Railroads	0.8	1.0	2.4	3.6	7.8
Agriculture	3.9	8.9	20.2	2.5	35.5
Domestic	-	32.8	-	-	32.8
Total	97.2	48.8	65.5	13.5	225.0

Total estimated requirements, civilian and military, amounted to less than 300,000 metric tons in 1950 and are as follows by product:

Total Consumption of Petroleum Products
1949

Product	Civilian	Military	Total
	Thousand Metric Tons		
Aviation Gasoline	3.2	3.4	6.6
Motor Gasoline	94.0	35.3	129.3
Kerosene	48.8	-	48.8
Diesel Oil, etc.	65.5	17.6	83.1
Lubricants	13.5	5.9	19.4
Total	225.0	62.2	287.2

Civilian consumption probably will not be increased in 1951 and 1952. Possible shortages are indicated by the institution of gasoline rationing on 1 January 1951. 6/ All private motor vehicles were ordered sold to the government, effective 9 January 1951; the size of the armed forces is reported to be increasing; and additional military equipment is being received. Military requirements will therefore increase, although the extent cannot be forecast.

[redacted]

3. Stockpiles.

The actual size of Hungarian stockpiles of petroleum products is unknown, but reports on the construction of new depots and the expansion of old ones indicate plans to build up stocks. These projects may have been at least partially implemented, since shortages in the available supply have been reported. In addition, in September 1950 a decree was issued requiring the sale of drums to the government. 7/

4. Surplus or Deficit.

In 1950, Hungary's petroleum export commitments totaled about 200,000 metric tons. 8/ These exports were to the USSR, Poland, and Czechoslovakia. Motor gasoline, kerosene, diesel oil, and fuel oil were shipped in the following amounts: motor gasoline, 80,000 metric tons; kerosene, 50,000 tons; diesel oil, 35,000 tons; and fuel oil, 35,000 tons. Some straight-run aviation gasoline was exported to the other Satellites. Hungary's major deficits of high-octane aviation gasoline, aviation and motor oils, and special diesel fuel were met in 1950 by imports of about 85,000 tons of these products from the USSR, Rumania, and Austria. 9/

5. Internal Limitations.

One of the principal limitations of the petroleum industry is the Soviet Union's shortsighted method of operation, which ignores conservative exploitation practices that could have extended the life of the oil fields. Since refinery capacity far exceeds crude-oil production, the insufficient output of crude oil is another major limitation to the industry. This limitation may be somewhat overcome in 1951 and 1952 by imports of crude oil.

6. Trends--Including Indications of Mobilization for War.

The recent exploration by Maszolaj, the joint Hungarian-Soviet oil company, in eastern Hungary is the first indication of Soviet interest in the future of the industry. The USSR appears to be attempting to increase Hungarian petroleum output to compensate in part for its Rumanian failures. If the effort is successful, little benefit will accrue to the Hungarian economy, since the additional quantities would be exported to the Soviet Bloc.

[redacted]

E. Electric Power.

Summary

The electric power industry of Hungary is of less significance to the economic potential for war of the Soviet Bloc than that of Czechoslovakia, Poland, and East Germany. Because of its importance to Hungary's industrialization program, however, the industry makes an indirect contribution to the economic potential of the Bloc.

Electric power production has shown an increase in each year since the end of World War II and is in 1951 at least 75 percent greater than prewar levels. Power output will continue to rise, but it is not believed that the claimed rate of increase of 20 percent in 1950 over 1949 will be maintained in 1951 and 1952. A more realistic estimated would be an annual rate of increase of 10 to 12 percent, which should meet the needs of the economy. The industry will probably keep pace with electric power requirements through 1952.

1. Economic Importance of the Industry.

Among the European Satellites, Hungary ranks fourth, after Czechoslovakia, Poland, and East Germany, in electric power production as well as in the level of industrialization.

2. Prewar and Present Trends.

The electric power industry was well-established before World War II, particularly in the industrial areas in northwestern Hungary. War damage and the removal of some of the most efficient equipment by the USSR under reparation claims retarded the development of the industry. Postwar rehabilitation and expansion have probably restored electrical generating capacity to its prewar status and may even have increased it by from 15 to 20 percent. Under the Five Year Plan, provision is made for the investment of over 3 billion forints in the electric power industry for increased capacity and production. Although details regarding allocations of these funds are not known, it is expected that 5 or 6 large modern thermal plants and from 12 to 15 smaller plants are to be built. It is estimated that capacity and production will continue to increase through 1952 at an annual rate of increase of about 10 or 12 percent, somewhat slower than planned.

[redacted]

3. Internal Limitations.

a. Energy Resources.

Domestic resources of brown coal and lignite, the principal sources of Hungary's electric energy, are adequate in amount but inferior in quality. Although petroleum and natural gas have been exploited, their use as energy sources in the generation of electricity is insignificant. With the exception of the Danube and Tisza rivers, hydroelectric resources are unsuitable for power development.

b. Electricity Generating Plants.

With the exception of the Kelenfold Station in Budapest, all of the major generating plants are located in coal-mining areas which coincide generally with the ferrous and nonferrous mineral resources areas. At least 10 plants are believed to be of from 25,000 to 125,000 kilowatt capacity. For at least two decades the emphasis has been in the installation of large units connected by high-tension transmission lines. Present installed capacity is estimated at between 700,000 and 800,000 kilowatts, but the poor condition of the equipment does not permit operation at full capacity.

In several regions there are significant plant concentrations, one being the belt, 50 kilometers wide, along the northern border from Gyor to Miskolc. A second is near the southern border in the Pecs-Komlo bituminous coal area, and another near the north end of Lake Balaton. In the northern border region the principal plants are as follows: those at Banhida, Tatabanya, and Dorog, serving the coal-mining industries; the six plants in the immediate environs of Budapest; the new plant at Matra-Lorinci, serving principally the lignite and nonferrous metals industries; and the plants at Salgotarjan, Diosgyor, and Ozd, serving the ferrous metals industry. The group north of Lake Balaton includes plants at Ajka, which supply the aluminum industry in that area; at Varpalota; and at Fuzfo. 1/ Because of heavy Soviet reparation demands on Hungarian manufacturers of electrical equipment, production of equipment for domestic use has been retarded. War damage and dismantling have placed added loads on the existing equipment, thus substantially increasing wear and tear.

c. Transmission Systems.

High-tension transmission lines play an important part in the electric power facilities of the northern industrial and mining regions. Budapest is the center of the 110,000-volt coordinated network which permits interchange of current with the big plants at Banhida and at Tatabanya to the west and at Matra-Lorinci to the east. This network also extends to Gyor and eventually is to be extended eastward to include the plants in Miskolc, Ozd, and Salgotarjan.

Parts of this latter network are in existence, but the degree of interconnection is not known. Also connected to the 110,000-volt system are 60,000-volt branch lines to Szolnok and to the Varpalota-Veszprem area, but it is not known whether these branches are in full operation. Elsewhere, there are local transmission lines operating at 60,000 volts and below. There is no integrated national network, and there are no important lines crossing international borders. Although the transmission lines suffered heavy damage in World War II, the important northern network appears to have been restored and extended.

4. Production.

It is estimated that the planned power output goal for 1949, 2.2 billion kilowatt-hours, was closely approximated. In January 1951 the Director of the Hungarian Planning Office stated that electricity production in 1950 was 20 percent greater than in 1949, 2/ which would make production in 1950 about 2.6 billion kilowatt-hours. The 1954 goal of 4.2 billion kilowatt-hours, almost double the output at the beginning of the Five Year Plan, is not likely to be attained, but there are no indications that critical shortages of power will occur through 1952.

Hungarian output of electric power in 1950 was about equal to that of Rumania and Yugoslavia combined, about 28 percent of either Czechoslovak or Polish output, and less than 3 percent of the USSR output.

Virtually all of the electricity produced is used within the country. There is a small foreign interchange at scattered border localities, but the net balance is insignificant in the national total. There have been references to possible interchanges with Czechoslovakia and Austria, but there is no evidence of progress in this direction.

5. Consumption.

Although detailed information is lacking regarding the pattern of electric power consumption, industry (including mining) accounts for about 60 percent of the total used. This trend is likely to continue through 1952. Full exploitation of the plentiful resources of bauxite should make the aluminum industry possibly the heaviest single industrial consumer. Electric railroads are sufficiently developed to be significant users of electric power. The present and potential electric requirements of the aluminum industry and of the railroads are not known.

6. Input Requirements.

Hungary is in a relatively good position with respect to input requirements, since coal and water power are adequate for present and future needs

and manpower requirements are small. The technical skills necessary for the operation and maintenance of electric power facilities also appear to be available, although foreign assistance probably would be necessary on any large hydroelectric construction projects. Much of the electrical equipment now in use is of Hungarian manufacture, and the domestic machinery industry probably is capable of providing nearly all of the requirements for power-generating equipment. 3/

7. Vulnerability.

The electric power industry in Hungary is not highly vulnerable to Western economic warfare, because the country is self-sufficient in prime energy resources and can probably import from the Soviet Bloc those raw materials needed for the manufacture of equipment.

[redacted]

F. Chemicals.

Summary

The Five Year Plan (1950-54) envisions considerable expansion by 1954 for various segments of the Hungarian chemical industry. These optimistic plans call for new installations to be constructed and old plants to be expanded for the increased production of nitrogenous and superphosphate fertilizers, sulphuric acid, and caustic soda.

The most important commodity produced and exported in volume is "Pet Salt," a nitrogen fertilizer. The bulk of the exports of this fertilizer goes to Egypt and probably some to the USSR. The production of synthetic ammonia, nitric acid, sulphuric acid, and nitrogen and phosphate fertilizers is sufficient to cover domestic demands. On the other hand, the production of caustic soda, soda ash, calcium carbide, coke chemicals (benzol, toluol, etc.), aniline dyes, and important organic chemicals is either nonexistent or insufficient to meet demands. The outstanding chemical shortages are in caustic soda, soda ash, and coke chemicals. Caustic soda has been imported from the USSR, East Germany, Rumania, and Austria. Soda ash imports have originated in Rumania and Austria, whereas the USSR and Poland are believed to supply Hungarian requirements for coke chemicals.

Hungary's potential ability to produce large amounts of ammonium nitrate for explosives use could be a significant contribution to the military strength of the Soviet Bloc. The production of explosives, such as TNT-ammonium nitrate mixtures (amatols) for high-explosive fillings in bombs and shells, may have increased substantially since late 1950, when two chemical plants were reported to be engaged in explosives production.

Hungary is seriously deficient in sulphur and pyrites, but since supplies come largely from within the Soviet Bloc, the country is not vulnerable in this respect to Western economic warfare. Nevertheless, the world sulphur shortage intensifies Hungary's supply problem in both materials. In recent years, Hungarian supplies of sulphur and pyrites have been critically short, with consequently adverse effects on many strategic industries.

The rubber industry does not occupy an important place in the Hungarian economy. Facilities for the manufacture of rubber articles are believed to be sufficient, however, to supply domestic requirements and provide some exports. The rubber industry is largely dependent on imports of raw materials.

[redacted]

1. Synthetic Ammonia.

a. Production.

Hungarian production of synthetic ammonia is estimated as follows:

Estimated Production of Synthetic Ammonia
1948-50

Year	Metric Tons (Nitrogen Content) Production
1948	8,300
1949	12,200
1950	14,000

The only plant producing synthetic ammonia in Hungary is the Pet Nitrogen Works (Petri Nitrogenmuevek RT) at Petfurdo, northeast of Veszkrem. The plant was put into operation in 1932 with an annual capacity of 6,000 metric tons (N), 1/ which after 1942 was to be increased to about 15,000 metric tons (N). 2/ In World War II the plant was 40 percent destroyed by bombing, and operations ceased. In 1949 the capacity of 15,000 metric tons (N) was attained, and annual capacity may now be 18,000 to 20,000 metric tons (N).

The system for ammonia synthesis developed by the Nitrogen Engineering Corporation (NEC) was employed in the original plant. A portion of the ammonia output is converted to nitric acid by oxidation in a large Barnag converter. 3/ In peacetime, most of the nitric acid produced is not concentrated and is used to manufacture "Pet Salt," a calcium ammonium nitrate fertilizer of 17 percent nitrogen content. Under war demands the production of fertilizer would be cut to a minimum, and ammonium nitrate alone also is produced in a grade suitable for the manufacture of explosives.

The following table gives the reported and estimated production of Pet Salt fertilizer by the Pet Nitrogen Works and the equivalent weight of nitrogen:

Estimated Production of Pet Salt Fertilizer
1938, 1942, and 1945-50

Year	Pet Salt Production	Metric Tons Nitrogen Content
1938	11,800 4/	2,000
1942	36,000 5/	6,100
1945	0 6/	0
1946 a/	300 7/	150
1947 a/	5,130 8/	870
1948	48,660 9/	8,300
1949	72,000 10/	12,200
1950	80,000	13,600

a/ There was no production by the Pet plant itself. Figures shown represent Pet Salt prepared from ammonium nitrate and limestone imported from the USSR.

b. Estimated Possible Production and Capacity.

Nitrogen production in both 1951 and 1952 is estimated at 14,500 metric tons, and nitrogen capacity in both years is estimated at from 15,000 to 20,000 tons. Pet Salt production in 1951 could therefore be 84,000 metric tons (14,300 metric tons, N) or better, but if military demands for ammonium nitrate and concentrated nitric acid increased, fertilizer output would decline accordingly.

c. Domestic Requirements.

Domestic requirements for synthetic ammonia are estimated as follows:

Year	Metric Tons
1950	6,000 (N)
1951	6,500 (N)
1952	7,500 (N)

The bulk of these requirements represents nitrogen fertilizers. Although production of Pet Salt fertilizer is in excess of agricultural demands, the price of the commodity has been almost prohibitive for the average farmer, and consumption has been sharply limited. The Pet Nitrogen Works also supplies other Hungarian plants manufacturing explosives.

d. Stockpiles.

There is nothing to indicate that synthetic ammonia has been stockpiled in Hungary or will be in the near future.

e. Surplus or Deficit.

Synthetic ammonia surpluses are estimated at 8,000 metric tons (N) in 1950 and 7,000 tons (N) in 1952. Despite anticipated increases in agricultural consumption of fertilizer, it is estimated that there will continue to be a surplus of Pet Salt production, which in the past has been exported to Egypt and to the USSR. Increased military demands for explosives would automatically decrease production of Pet Salt because of the conversion of nitrogen production into concentrated nitric acid for explosives production.

f. Internal Limitations.

There are no shortages of raw materials, nor have any reports been received indicating that shortages or limiting factors may develop. The planned reconstruction and extension of the nitrogen facilities at the Pet Nitrogen Works appear to have been accomplished successfully. With adequate maintenance and a sufficient supply of replacement catalysts (platinum-rhodium wire gauzes), the installation should be able to maintain steady output.

g. Trends--Including Indications of Mobilization for War.

The only indications of mobilization for war are reports that an explosives production contest was begun in mid-1950 between the Pet Nitrogen Works and the Peremarton plant 11/ and that the Pet Works had pledged to produce 8,820 metric tons of ammonium nitrate more than the 1950 goal and expected to meet the original goal by 27 November 1950. 12/ If the latter report actually refers to ammonium nitrate instead of Pet Salt, then Pet fertilizer production may have already been cut in order to produce ammonium nitrate for explosives.

The Five Year Plan projects the construction of a second nitrogen producing plant, and the 1954 fertilizer production goal is reported to be 240,000 metric tons more than the 1949 output. 13/ There has been no further information on the progress made toward construction of the new plant, and the project appears far too ambitious for Hungarian capabilities.

2. Sulphur and Pyrites.

a. Production.

(1) Sulphur.

Sulphur is not mined in Hungary. Small but unknown quantities of by-product material are obtained from metallic sulphides and indigenous pyrites 1/ and from furnace gases at the Pet Nitrogen Works, which were expected to provide 500 metric tons a year. 2/

(2) Pyrites.

Prewar production of pyrites mined at Recsk was about 10,600 metric tons a year. 2/ Production in 1950 is estimated to be about 12,000 tons.

b. Estimated Possible Production and Capacity.

(1) Sulphur.

No information is available upon which to base an estimate. Spent oxide from the Budapest Gas Works could supply about 4,000 metric tons of sulphur annually, 3/ but it is not known whether this contemplated project has materialized. In 1949, extraction of sulphur from furnace gas by active carbon absorption was conducted. 4/

(2) Pyrites.

There is no information on which an estimate can be made for pyrites production in 1951 and 1952.

c. Domestic Requirements.

Hungary depends almost entirely upon imports for its requirements of elemental sulphur and principally upon imports for requirements of pyrites. Incomplete information on imports of these products is reported as follows 5/:

Imports of Sulphur and Pyrites
1947-51

Year	Sulphur	Pyrites
		Metric Tons
1947	1,793	14,291
1948	3,524 (Italy, US)	8,121 (Yugoslavia)
1949	2,344	N.A.
1950-51	986 (East Germany)	15,000 (Albania)
1951 (Planned)	N.A.	40,000 (Rumania)

(1) Sulphur.

Requirements of sulphur in 1950 were 3,000 metric tons, 6/ of which about 650 tons were required for carbon bisulphide for rayon production 7/ and the remainder principally for rubber manufactures and agriculture. Requirements in 1952, which will depend largely on the rate of operations of the rubber and rayon industries, are estimated at 3,500 tons.

(2) Pyrites.

Pyrites requirements in 1950 are estimated at about 15,300 metric tons for sulphuric acid alone, and additional requirements for the extraction of elemental sulphur and the pulp and paper and miscellaneous industries may bring the total to about 50,000 tons. At present the sulphuric acid industry is unable to meet domestic requirements. 8/

Under the current Five Year Plan a new sulphuric acid plant of 70,000 metric tons annual capacity is to be built, 9/ but no reports have been received as to the probable date of completion. This plant will require an additional 52,000 tons of pyrites annually, thus raising total pyrites requirements to about 100,000 tons a year.

d. Stockpiles.

Because of difficulties in importing pyrites and sulphur, it is likely that stocks of these minerals are extremely low.

e. Surplus or Deficit.

Numerous reports have been received of Hungarian shortages of both pyrites and sulphur in 1949 and 1950. 10/ The pyrites shortage has resulted principally from the Yugoslav ban on exports in 1949, which was later lifted. The sulphur shortage results in part from US export controls and in part from the world sulphur shortage which began to be apparent in 1950. It is claimed, however, that an installation now under construction for the recovery of by-product sulphur will provide 25 to 30 percent of Hungary's requirements of elemental sulphur.

The desperateness of the Hungarian sulphur-pyrites situation is indicated by the concerted efforts taken to import some sulphuric acid, 11/ by a directive to Hungarian missions abroad to buy copper pyrites and "to address themselves to the Spanish pyrites market, using neutral or Italian enterprises as intermediaries," 12/ and by efforts to buy copper pyrites from Yugoslavia through intermediaries in other countries. 13/ In 1949, unsuccessful efforts were made to purchase from 50,000 to 60,000 metric tons of pyrites from Cyprus. 14/ The pyrites shortage may well become worse

in 1952, partly because of increased Hungarian requirements and partly because of growing world demand for pyrites as a substitute for US sulphur in the production of sulphuric acid. The available data on imports of pyrites indicates that Hungary obtains its supplies principally from the Orbit. With the increasing world demand for both sulphur and pyrites, however, and with the drying up of Western sources of supply, Orbit sources may be unable to furnish sufficient amounts unless the recently developed Albanian and Rumanian mines can meet the deficit.

f. Internal Limitations.

Hungarian reserves of pyrites are believed to be small, and intensive exploitation might exhaust them in a few years. Furthermore, it is difficult to procure equipment for mining these minerals. It is believed, however, that by-product sources could potentially supply most if not all of the country's requirements of elemental sulphur. A shortage of technical skill in the various industrial processes also is an important limiting factor.

g. Trends--Including Indications of Mobilization for War.

The trend in production both of by-product sulphur and of pyrites, as indicated in the Five Year Plan, is definitely upward. It is doubtful, however, whether the increase in output will keep pace with the larger requirements. This situation will be aggravated by the growing world shortages in these materials so essential to the Hungarian economy, particularly for the production of many chemicals and products consumed in the manufacture of goods exported to the USSR.

3. Rubber.

a. Production.

Rubber production in Hungary is believed to consist largely of vehicle tires, although there is some export of industrial rubber goods. The press claims about 70,000 tires were produced in 1949. Trade journals state, however, that this figure included tractor and motorcycle tires and that actual production of automobile and truck tires was only 45,000. 1/ Hungary has only one known plant producing motor vehicle tires. The synthetic rubber plant, the Magyar Vegimunok plant, which the Germans constructed at Rakoskeresztur for the production of Buna N and Buna S rubber never was completed, 2/ and recent reports indicate that its facilities have now been converted to the production of dyestuffs. 3/

b. Estimated Possible Production and Capacity.

A considerable increase of production is projected in the Five Year Plan (1950-54), which provides for an increase by 1954 of 107,500 motor vehicle

[redacted]

tires over 1949 production. 4/ No estimate can be made, however, of the ability of the Hungarian rubber industry to meet or approach this goal.

c. Domestic Requirements.

About 3,000 metric tons of natural rubber were imported annually in prewar years, 5/ but most of the demand for rubber products was met by imports of finished products. Postwar imports of natural rubber are estimated at 3,247 metric tons in 1948,* 8,500 tons in 1949, 6/ and from 8,000 to 9,000 tons in 1950.* Some synthetic rubber is supplied by the USSR, East Germany, and Belgium. Five hundred metric tons were to come from East Germany in 1948, 7/ and a trade agreement with the USSR, covering trade between 1 August 1948 and 31 December 1949, obligated the USSR to supply 1,000 tons of artificial rubber. 8/ Fifteen tons of neoprene-type synthetic rubber, presumably of US origin, were received from Belgium in early 1950. 9/

Domestic requirements for tires are not large, because motor transport is not a significant factor in Hungarian transportation. With a motor park estimated at around 20,000 vehicles in 1950, requirements for tires are estimated to be from 80,000 to 100,000 units a year.

d. Stockpiles.

There is no information on stockpiling of rubber or rubber goods in Hungary. Annual imports of natural rubber in 1949 and 1950 were more than double the receipts of prewar years, but it is not known whether the expanded production of rubber goods absorbed this additional supply of rubber.

e. Surplus or Deficit.

Hungarian facilities for the manufacture of rubber articles are reported to be sufficient to produce a surplus over requirements, provided adequate supplies of raw materials are obtained. 10/ The increased imports of natural rubber in the past 2 years should be adequate for the industry. Hungary exports industrial rubber goods, especially conveyor belts, hose-piping, and bicycle tires, largely to the USSR and the other Satellite countries in exchange for other rubber goods.

f. Internal Limitations.

(1) Availability of Raw Materials.

Natural rubber is obtained principally through reexports and transshipments from the Netherlands and Germany. 11/ In 1950, synthetic

* Estimated from various foreign trade statistics.

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rubber was obtained principally from the USSR and Germany, although small quantities were supplied by Belgium. 12/ Most of the other raw materials used in the rubber manufacturing industry also are imported. Some zinc oxide is produced in Hungary, 13/ and recently a carbon black factory was established in the Lovaszi gas fields. 14/ Rumania supplies most of the carbon black imported by Hungary, and additional amounts are imported from Western Europe. Although there is no information on availability or sources of tire cord, Czechoslovakia and East Germany probably could supply viscose cord.

(2) Shortages of Raw Materials, Technical Personnel, and Equipment and Other Limiting Factors.

In the event of a stoppage of direct and indirect imports of natural rubber from Southeast Asia, the USSR and East Germany would have to provide synthetic rubber to the Hungarian rubber manufacturing industry. To set up a domestic synthetic rubber industry would present great difficulties because of the length of time needed to procure equipment, as well as the inadequate supply of basic raw materials required for such production. Technical and supervisory personnel would probably have to come from the USSR or East Germany.

The shortage of carbon black and rubber chemicals has been a major deterrent in the expansion of rubber goods production, especially of tires. The establishment of a carbon black plant in Hungary will alleviate this shortage to some degree, and Rumania can supply additional quantities. Some zinc oxide is normally used by the Hungarian rubber manufacturing industry. Domestic production formerly was sufficient to cover these requirements, but a shortage of zinc since the war has cut domestic production to a minimum. 15/ Attempts to obtain other rubber chemicals from all available sources continue to be made.

5. Trends—Including Indications of Mobilization for War.

Hungary is attempting to increase production of motor vehicle tires, 16/ which are of vital importance to an industrialized civilian economy as well as to military potential. Reports indicate that in postwar years Hungarian factories have produced considerable quantities of gas masks, destined in part for the USSR. This production is not considered unusual, however, since industrial plants kept large numbers of gas masks on hand during the last war and since production of this item requires no conversion of industrial facilities.

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G. Engineering Industry.

Summary

Hungary is a significant contributor to the economic capabilities of the Soviet Bloc in the field of heavy machinery and steel products, including weapons and ammunition, electrotechnical products, and precision parts and instruments. Hungary also is a small but important supplier of merchant vessels. The shipbuilding industry is nationalized and is completely under the control of the USSR. Total output has been and will continue to be exported to the USSR. The aircraft industry is small and does not fill domestic requirements. Production is limited to low-powered training planes, engines, and gliders. Existing facilities could, however, be used by the USSR for the production of some parts for jet aircraft and possibly for their assembly.

Hungarian production is limited to a small number of categories for which the engineering industry is best suited. As a result, the economy is not self-sufficient in many items, the most notable being machine tools and ball bearings. The industry must import a number of raw materials, particularly copper and its alloys. In general, the industry is geared to the export market, the major share of production going to the USSR and the other Satellites.

A major expansion in Hungarian heavy industry was initiated in the Three Year Plan (1947-49) and is to be continued in the Five Year Plan (1950-54), in accordance with which additional plant facilities are being completed for the engineering segment. Extensive conversion of engineering plants to military production began in 1950, but, in view of shortages of production materials and machine tools, some delay is anticipated in meeting the expanded goals toward the end of the Five Year Plan. The success of the Three Year Plan has established a good base for a continuing increase in industrial output, however, and by 1952 production may exceed 1950 output by 40 percent.

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1. Production.

In Hungarian engineering there are two factors which indicate an important contribution to the Soviet power complex in the industrial field. First, the Hungarian engineering industry has attained a leading position as a supplier of a few types of specialized manufactured goods. Second, under the completed

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[redacted]

Three Year Plan and the current Five Year Plan (1950-54), major efforts are being devoted to the expansion of the engineering industry, with special stress upon those products for which the industry is best suited. The share of heavy industry in the national income, 20 percent in 1949, is scheduled to be 26 percent in 1951 and 35 percent in 1954. These goals are to be reached by allocating annually 20 percent of the national income to investments in heavy industry. At present there is some doubt that this proportion can be maintained in view of the competition from the expanding munitions industry for manpower, steel, and heavy industrial products.

All plants of the engineering industry were nationalized before 1950, and almost all of them are directed by the Ministry of Heavy Industry (NIM). Those plants subordinate to the NIM which produce direct and indirect military items were made subject also to control by an "Industrial Development Organization," a secretly created directorate of the Ministry which was composed of reliable Party members. In many cases the Ministry for Defense and the Joint Soviet-Hungarian Commission also exercise control. Although the plants are staffed by Hungarians, the policies and operational plans clearly are subject to Soviet direction.

The three major categories of industrial output are steel products (heavy machinery, transportation equipment, and arms and ammunition); electrotechnical products (electronic apparatus, telecommunication equipment and components, motors, generators, and power plant equipment); and precision products (mechanical, optical and electrical instruments, and precision parts for machinery). The following table contains estimated production or capacity of the engineering industry (1948-52):

Estimated Production or Capacity of the Engineering Industry
1948-52

Industry	Production or Capacity (Million Forints) 1948	1949	1950	1951	1952	Employment (Thousands) 1950	Required Percent for Domestic Use
Heavy Machinery	2.1	2.8	3.8	5.0	6.0	90	25
Electro-technical Equipment	0.8	1.0	1.2	1.6	1.9	26	18
Precision Tools	0.3	0.4	0.7	1.0	1.3	15	10

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Shipbuilding production is estimated at 20,000 gross tons in 1949 and 27,000 tons in 1950 when the industry employed 7,000 workers. Capacity is estimated at 35,000 gross tons in 1951 and a similar amount in 1952.

a. Heavy Machinery.

In 1950 the principal products of the Hungarian heavy machine industry included industrial and construction machinery, transportation equipment, heavy guns and ammunition, tank components, engines, tractors, and some specialized machine tools. Before late 1949 the effort devoted to munitions production was relatively small. Output of this sector of the engineering industry is estimated in terms of factory value at 2.0 billion forints in 1948, 2.9 billion forints in 1949, and 3.8 billion forints in 1950. The 1950 output, totaling about 500,000 metric tons of manufactured products, would indicate an equivalent US production value of $550 million.*

b. Transportation Equipment.

(1) Shipbuilding.

In 1945 the USSR appropriated all German interests in Hungarian shipyards, and the government nationalized the others. By 1949, all shipbuilding was completely controlled by the USSR, although technically shipyards remain under the Ministry of Heavy Industry.

Hungary has three major shipyards, all located in the environs of Budapest. The most important is Ganz-Danubius, an almost totally self-sufficient enterprise because of its many affiliated factories. Only small cargo ships, tugs, and tanker barges are being built, all to Soviet specifications, although the Ganz yard has a building way which can accommodate a vessel of 4,000-ton displacement. Present facilities have an annual capacity of 35,000 gross tons of new shipping of the types now on order. All Hungarian shipyards could quickly turn to the large-scale construction of small naval craft, and the Ganz and Obuda yards are able to construct destroyers.

Despite the great progress made between 1945 and 1950 under both the Three Year Plan and the Five Year Plan, ship production has never met the planned yearly quota, partially because of unrealistic goals and lack of skilled labor and materials but most probably because of the large number of rejects of component parts, which in 1950 reached a high of 30 percent. Actual output in 1949 was approximately 20,000 gross tons, whereas in 1950 it rose to 27,000 tons. The number of skilled laborers has increased, and new machine tools were to have been delivered by the USSR. Production will

* Data on the important heavy machine facilities in Hungary are given at the end of this section.

continue to rise in 1951-52 and may quite possibly reach 35,000 gross tons.

Imports to support the shipbuilding industry are negligible, and domestic requirements for new shipping are small. Consequently, virtually the entire output can be exported.

There are no indications of war mobilization. On the contrary, the total absence of naval construction in shipyards experienced in such work is significant.

(2) Aircraft.

Production of the Hungarian aircraft industry, nationalized under the Ministry of Heavy Industry, is limited to low-powered training planes, small engines of about 100-horsepower rating, and gliders. Glider production is sizable, comprising half a dozen models, and permits a surplus which is exported to Rumania. Little aluminum is required for the types of aircraft presently in production, and domestic steel output is adequate to meet needs. Requirements of copper must be imported. Should the manufacture of tactical aircraft, which require large quantities of metal, be started, it would be necessary to give the aircraft industry a high priority for both aluminum and steel in order to maintain production. There is no stockpiling of either aircraft or component parts.

The Danube Aircraft Factory (part of the Manfred Weiss Industrial Combine), because of its potential capacity, is probably the most important aircraft plant in Hungary. This factory now manufactures low-powered aircraft engines, but, according to recent reports, it is probably being tooled up for final assembly of Soviet jet fighters, using some domestically produced airframe parts, and assembly work may already have begun. German Messerschmitt and Heinkel fighters were manufactured in this plant during World War II.

The Aerodynamics Laboratory at the Peter Pazmany University of Budapest has been trying to produce the British Derwent jet engine, but has been unsuccessful so far because of technical difficulties. By January 1949 the Marx-Legetvaros Aircraft Plant, under reconstruction since early 1948, had produced 85 DB/605 engines for training planes, the airframes to come from the Jozsef Nador Technical University at Budapest and the Hungarian Aircraft Factory. Other aircraft factories are as follows: the small Siraly Factory, which produces SC-2 all-metal trainers and gliders; the Neuschloss and Lechtig Airplane and Lumber Industry, which probably does subcontracting work for the glider and lighter aircraft factories; the Aero Ever Factory, which manufactures small training planes of Hungarian design and also gliders, sufficient for domestic requirements plus a small surplus exported to Rumania; and the

Gyor Aircraft Plant (subsidiary of the Manfred Weiss Industrial Combine), reported in 1948 to be producing 12-cylinder V engines for the USSR at the rate of six a day. In addition, the Ozd Aircraft Plant was reported in July 1950 as an underground aircraft plant under construction, although official information stated that it was to be a fertilizer plant. Light plane and glider production will probably be increased as the Hungarian Air Force steps up its recruiting.

Most of the aircraft in the Hungarian Air Force are supplied by the USSR, although a few small transports and trainers have come from Czechoslovakia. Military aircraft numbered about 160 in early 1951.

Development of a major aircraft industry in Hungary is limited by Soviet policy, lack of supporting heavy industries, and the restricted size of the Hungarian Air Force. As early as 1948, however, top Communist circles were planning for an aircraft industry to meet future military requirements. As a result, the Hungarian government, using the National Aviation Association as its tool, is training large numbers of youths in air and ground aviation duties, as well as in technical skills which could be used in a developing aircraft industry. At the present time, nevertheless, the Hungarian aircraft industry makes little or no contribution to Soviet capabilities.

c. Electrotechnical Equipment.

The principal products of the Hungarian electrotechnical industry include electric motors, generators, transformers, electric locomotives, telephone equipment, military communication and radar equipment, lamps, tubes, and radio components. For the past 50 years this industry has exported quantities of power generating and distribution equipment, telephone apparatus, lamps, and tubes. Output totaled 0.8 billion forints in 1948, 1.0 billion forints in 1949, and 1.2 billion forints in 1950. Production in 1950 included 26 million lamps, 8 million electron tubes, 65,000 commercial radios, a large quantity of varied military electronic devices, 2,500 metric tons of cable, 300,000 kilovolt-amperes of transformers, and 600,000 kilovolt-amperes of electric motors and generators.*

d. Precision Machine Products and Instruments.

The manufacture of precision products was begun in Hungary in the early 1920's, and since then the country has been a small but highly important source of precision instruments, optical components, and fire-control devices. Current production, concentrated in about 13 enterprises, includes small arms,

* Data on the important Hungarian electrotechnical firms are given at the end of this section.

ammunition, fuses and parts thereof, precision machine tools, military optical devices, optical and electronic fire-control instruments, precision mechanical parts, gauges, and aircraft instruments. Output totaled 285 million forints in 1948, 440 million forints in 1949, and 735 million forints in 1950.*

2. Capacity.

All sectors of the Hungarian engineering industry benefited by extensive expansions of facilities initiated under the Three Year Plan. Although since early 1950 the combined effect of Western export controls and Hungarian lack of foreign currency have made difficult the acquisition of needed plant equipment and materials, the expansion and conversion achieved under the Three Year Plan provide a good base for continued increases in capacity through 1954.

Estimated Capacity of Engineering Industry
1951-52

Sector	1951		1952	
	Output (Billion Forints) a/	Employees (Thousand)	Output (Billion Forints) a/	Employees (Thousand)
Heavy Machinery	5.0	120	6.0	145
Electro-technical Equipment	1.6	34	1.9	41
Precision Instruments	1.0	22	1.3	30
Total	7.6	176	9.2	216

a/ US dollar.

3. Domestic Requirements.

Historically, the Hungarian engineering industry is geared to an export market. Even with the large industry investment program, only a small fraction of current output is required for the domestic economy. This fraction varies widely between products. Almost all tractors and electric locomotives are allocated to meet domestic requirements, but only 50 percent of the electric motors and generators, and a negligible portion of cable, electronic equipment, and precision instruments are set aside for the internal market. It is

* Data for the important firms are indicated at the end of this section.

[redacted]

estimated that in the period 1949-52 25 percent of the output of heavy machinery, 18 percent of electrotechnical manufactures, and 10 percent of precision products would be required to fill domestic needs. Since the production of arms and ammunition is a joint Soviet-Hungarian operation, no domestic requirements have been estimated.

4. Stockpiles.

There is no stockpiling of most products of the Hungarian engineering industry. With respect to arms and ammunition, shipments from the USSR into Hungary, plus Hungarian production, would indicate a significant buildup in stockpiling, but no quantitative data are available.

5. Surplus or Deficit.

The total output of the engineering industry is largely in excess of the domestic requirements of the Hungarian economy, particularly in precision instruments, optical goods, electronic and telecommunications apparatus, heavy industrial equipment, transportation equipment, and small arms and ammunition. Domestic production is inadequate to meet current and future requirements for machine tools, ball bearings, and heavy armament.

6. Internal Limitations.

The Hungarian engineering industry is well-organized and competent in its area of specialty, but many raw materials, both basic and specialized, and a wide variety of manufactured products must be imported to support this industry. Normally, the bulk of these requirements has been filled by imports from areas outside the Orbit. The dislocation of this normal pattern of trade, however, may well be the most serious limitation to expansion. The diminished reserves of foreign currency and the extensive conversion to munitions production in 1950 and 1951 limit Hungary's ability to obtain these products from normal sources of supply.

Serious shortages existed in 1950 and may be expected to become worse. Poor political relations with Yugoslavia and lack of Western European currencies have cut down copper imports. Attempts to substitute aluminum in the electrical industry will be only partially successful. Lack of ball bearings, normally obtained from Italy, Sweden, Switzerland, and the USSR, has curtailed production in some plants. Machine tools for industrial expansion have been imported largely from Switzerland, Italy, France, and the USSR, but deliveries have become increasingly difficult. If continued expansion in the engineering industry is to be accomplished as planned, it will be necessary to divert increasing quantities of these products from other Orbit users to Hungary. Steel supplies, supplemented by Soviet shipments of steel products

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and semimanufactured components, probably will be adequate to support the projected expansion of the engineering industry. The aluminum required by the industry is available.

7. Trends—Including Indications of Mobilization for War.

Two significant trends are apparent in Hungary:

a. Heavy industry was expanded in 1949 and 1950, and further expansion is projected. Output is to be more than doubled between 1950 and 1954. In implementing this expansion, a large number of new plants have been established in the engineering industry.

b. In accordance with the Soviet policy of integrating Satellite armed forces with those of the USSR, the Hungarian engineering industry has been directed to convert to munitions production. Before 1949, some plants, especially those engaged in the production of electronic equipment, optical components, and precision industries, had been delivering a major part of their output to the USSR in the form of direct or indirect military material. By the end of 1949, joint Soviet-Hungarian plans and contracts had been arranged for the extensive conversion in 1950 of heavy machine and precision plants to munitions production. Hungary's failure in 1950 to meet commitments to South America for the export of industrial products is further confirmation of such conversion for the benefit of the Orbit.

Chief Electrotechnical Producers (Hungary)
1950

Name	Footnote References	a/ Products	Production (Million Forints) 1948	1949	1950	Employees
Tungsram/Orion (and 4 Subsidiary Plants), Vaci-ut 77, Ujpest	2, 5, 6, 10, 46	Tubes, Lamps, Electronic Components, Apparatus, Instruments, Radios, Glass Products	200	250	300	9,000
Ganz Electric, Lovohas-ut 39, Budapest II	2, 8, 10, 29, 47	Motors, Generators, Transformers, Switchgears, Motors, Electric Locomotives, Marine Drives	130	200	260	5,000
Standard Electric, Fehervari-ut 70172, Budapest	2, 3, 32, 48	Telephone Sets, Telephone Terminal Equipment, Instruments, Military Transmitters, Radar Components	220	240	270	5,000
Hungarian Siemens, Teres Kor 36, Budapest	2, 5, 8	Electric Motors, X-ray Equipment, Electrical Apparatus	80	70	100	2,000
Telefongyar, Hung. Kor 126, Budapest XIV	2, 48	Telephone Sets, Switchboards, Railroad Signals	80	80	80	1,500
Felten & Guilleaume and Kabelgyar, Budapest XI	2, 49	Aluminum Wire and Cable	37	45	50	1,000
Other Firms	2, 7, 8	Electric and Electronic Equipment	83	100	120	2,500
		Total	830	985	1,180	26,000

a/ See Appendix B, p. 122

Chief Heavy MachinerProducers (Hungary)
1950

Name	Footnote References a/	Products	Production (Million Forints) 1948	1949	1950	Employees
Matyas Rakosi, Csepel Isl., Budapest	19, 10, 14, 22, 28, 31, 34, 35	Machines, Engines, Munitions, Railroad Cars, Trucks, Industrial Equipment, Steel	600	690	940	27,000
MAVAG, Kobanyai-ut 22/23, Budapest X	1, 10, 11, 15, 22, 26, 31, 34, 36	Locomotives (50% of Hungarian Production) Buses, Cranes, Industrial Equipment	360	450	500	10,500
MAVAG Plants C & D Diosgyor	1, 10, 17, 18, 19, 22, 31, 34, 37	Field Guns, AA Guns, Aircraft Parts, Tank Parts, Rails, Wheels, Armor Plate	210	350	500	14,000
Ganz Waggon, Kobanyai-ut 31, Budapest IX	1, 10, 14, 16, 22, 26, 31, 34, 38	Trucks, Diesel Trains, Gun Parts, Tank Parts, Tank Repairs	210	300	340	9,000
Magyar Waggon, Gyor	1, 4, 11, 20, 22, 23, 24, 26, 30, 31, 34	Coaches, Cars, Cranes, Guns, Tank Parts	250	310	430	7,000
Hoffher Schrantz, Budapest	2, 10, 31, 40	Tractors, Engines, Tank Parts	100	250	300	5,000
RIWA Borsod	1, 2, 22, 31, 34	Steel Parts, Munitions	70	100	140	4,000
L. Lang Eng. Works Vaci-ut 158, Budapest	2, 31, 41	Diesel Engines, Steam Turbines, Boilers, Chemical Machinery	80	100	165	3,500
Other Firms	2, 31	Machinery, Munitions	200	250	450	10,000
		Total	2,080	2,800	3,765	90,000

a/ See Appendix B, p. 122

Chief Producers of Precision Machine Products and Precision Instruments (Hungary)
1950

Name	Footnote References a/	Products	Production (Million Forints) 1948	1949	1950	Employees
Gepgyarto, Soroksari-ut 158, Budapest IX	2, 13, 25, 31, 34	Special Machine Tools, Guns and Mortar Parts		10	30	1,314
Toemegyarto, Soroksari-ut 158, Budapest IX	2, 12, 25, 31, 34, 39	Military Small Arms, Ammunition and Fuses		10	50	2,526
Finommechanikai es Szerszamgyar (Damuvia) Lajos es Angelut, Budapest XIV	2, 21, 25, 31, 42	Machine Guns, Fire-Control Instruments, Clocks, Precision Gears, Instruments	30	30	50	1,000
Damuvia, Szekesfehervar	2, 43	Small Arms Parts (to include Machine Guns)			10	360
Magyar Loeszer Muvek Veszprem	2, 43	Small Arms Ammunition		15	30	1,000
Gamma, Fehervari-ut 81/85, Budapest XI	2, 25, 27, 44	Optical and Electronic Fire-Control Instruments, Cameras, Precision Optical Components	50	100	140	2,000
Finommechanikai (Marx) Bulcsu-ut. 7, Budapest VI	2, 25	Projectors, Aircraft Instruments, Meters	15	20	25	500
Magyar Optikai Muvek Csorsz-ut 37/41, Budapest XII	2, 25, 45	Military Optical Devices, Precision Machine Parts, Meters, Gauges	100	120	140	2,000
Other Firms	2, 25, 33, 34	Instruments, Munitions	90	135	260	4,000
		Total	285	440	735	14,700

a/ See Appendix B, p. 122

VII. Transportation.

Summary

Hungary's transportation system makes only a limited contribution to the economic potential for war of the USSR. Soviet-Hungarian rail traffic, which is dependent upon but apparently not limited by transloading at the border, comprises only a minor part of total Hungarian rail traffic. Bauxite, a major item of Soviet-Hungarian trade, is moved internally by the rail network to Hungarian Danube ports for transshipment across Yugoslavia to Rumania and thence to the USSR. Total Hungarian shipments of this commodity account for about one-third of the annual consumption of the USSR. The railroads also are important to the USSR because they carry transit traffic to and from Austria, Switzerland, and Czechoslovakia, including the shipment of such items as machinery and chemicals, which are in short supply in the Soviet Union. Moderate quantities of new railroad equipment and small Hungarian vessels are being delivered to the Soviet Union. The Hungarian highway and air transport systems make no appreciable contribution to the Soviet economic potential.

The strategic significance of Hungarian transportation facilities and equipment to Soviet war capabilities outweighs their economic significance, primarily because of the country's geographic location. Current and planned improvements of the rail network, such as the strengthening of main through lines, the construction of a by-pass around Budapest, and the development of a new transloading station, will somewhat increase the military importance of the railroads in terms of possible large-scale westward movements. The through-traffic capacity of the highways, now largely unused, the increased mechanization of the Hungarian Army, and the relatively extensive airfield network also would be of considerable importance for Soviet-Satellite military operations.

A. Railroads.

1. Direct Contributions of Railroads to the Economic Potential for War of the USSR.

Hungarian railroads make a small but useful contribution to the economic potential for war of the USSR. They are less developed than most railroad systems of Europe but are of strategic importance because of their geographic location.

a. General Description of the Network.

The MAV (Hungarian State Railways) network, which totals approximately 8,700 kilometers of track, is evenly distributed across the country with no outstanding characteristics of pattern. Major lines radiate from Budapest and are joined by numerous connecting lines. MAV serves as a transport link between Central Europe and the Balkans and between the Adriatic and Transcarpathia, but major through traffic at present is between the Soviet Ukraine and the Danube Valley. Two lines, Route 100 via Debrecen and Route 80 via Miskolc, carry Soviet-Hungarian traffic between Zahony and Budapest. Soviet traffic with Austria and Czechoslovakia also crosses Hungary. Two lines connect Budapest with Vienna, one south of the Danube via Gyor and one north of the river via Bratislava. A recently built line between Vac and Aszod provides a by-pass around Budapest for traffic between Miskolc and Bratislava.

Zahony on the Soviet-Ruthenian frontier is the transloading station for exchange traffic with the broad-gauge rail system of the USSR. Zahony is one of the largest transloading points on the Soviet perimeter.

b. Traffic.

Hungarian rail traffic in 1951 is about 70 percent above the prewar (1939) level of 2,505 million ton-kilometers of freight and about 23 percent above the 1949 level. Traffic for 1950 is estimated to have been approximately 4,312 million ton-kilometers, over 90 percent of the total inland surface freight transportation of Hungary.

The chief commodities hauled are agricultural produce, ores and metals, machinery, and military supplies and equipment. Major items or rail traffic to the USSR are foodstuffs, machinery, railroad equipment, petroleum, and textiles. Hungary also supplies one-third of total Soviet requirements for bauxite. Most Hungarian bauxite is carried by the railroads to Danube ports, and only about 10 percent of the total annual deliveries move directly to the USSR by rail, an estimated 31,000 metric tons. Chief commodities moving from the USSR into Hungary are ammunition, lumber, and iron ore, accounting for approximately 6,100 cars a month. About 5,335 empty cars return to Hungary monthly, indicating the one-sided nature of trade relations. The total yearly traffic through the transloading station at Zahony is estimated to be about 20 percent of all Hungarian railroad traffic.

c. Equipment.

MAV lines are, with some exceptions, in poor repair and of light construction. Roadbed, ballast, and rails are of light construction and, for the most part, need restoration or replacement. Equipment on the electrified line between Budapest and Hegyeshalom is heavier and in better condition than the average, as is equipment on the nonelectrified line Budapest-Szob. The Budapest-Miskolc line to Zahony has been strengthened with heavier rails and roadbed.

It is believed that only five or six of the most important rail yards in Hungary are equipped with humps and car retarders. Each of these yards, which are of the most efficient type, has a capacity of approximately 4,000 cars a day. The individual capacity of all other yards is 2,000 cars or less a day. Hungary is believed to be incapable of converting any more flat yards to hump yards. 1/

d. Capacity.

The railroad system of Hungary is estimated to be operating nearly at full capacity. Recent improvements in the fixed line facilities between Zahony and Budapest have increased maximum permissible speeds and axle loadings, but until rolling stock inventories and terminal facilities are increased, the effective over-all capacity will not be greatly improved. The factor which contributed the most to freight traffic increases in 1950 was the inauguration of the "two-thousand-ton movement," a system encouraging the overloading of trains. In the first half of 1950, tonnage hauled on special "two-thousand-ton trains" increased 89.5 percent, and the average load increased 32 percent. 2/ Such overloading causes deterioration of the system and does not represent a real increase in the physical capacity of the rail network.

Transit traffic capacity, however, was considerably increased in 1950 by the replacement of rails and the strengthening of roadbeds on the Zahony-Budapest lines and by the construction of a double-track line between Vac and Aszod. The latter line will permit through traffic between the Soviet Ukraine and the upper Danube Valley, particularly to Austria and Czechoslovakia, by-passing the Budapest bottleneck.

e. Vulnerability.

The Hungarian railroad system is not markedly vulnerable to air attack or sabotage. Because of the absence of mountains, gorges, and other topographical features presenting difficult engineering problems, few critical targets are presented. The even distribution of the network affords alternative routes around existing major targets. MAV's point of greatest vulnerability is the complex of yards and terminals at Budapest. The Danube and Tisza railroad bridges at Baja, Budapest, Szolnok, Tiszafured, and Tokaj also are vulnerable points. The completion of the Vac-Aszod by-pass and the strengthening of Route 80 now under way, however, will provide the USSR with a high-capacity, double-track line between Bratislava and Soviet

Rumbenia which will use no major bridges or bottlenecks in its entire Hungarian sector.

The extent to which the economic war potential of the USSR is vulnerable through MAV is slight. Danube River traffic handles a large share of the trade between Hungary and the USSR, and, although this route also is vulnerable, it probably could absorb some of the rail traffic which might temporarily be disrupted by attack. Secondary lines across Czechoslovakia and Poland also could absorb some Soviet-Hungarian rail traffic.

2. Direct Contributions of Railroad Equipment to the Economic Potential for War of the USSR.

a. Inventories.

MAV lists, as of 1 January 1951, approximately 1,500 locomotives and 45,000 freight cars, about 15 percent less than the 1939 locomotive inventory and 3 percent less than the 1939 freight car inventory. The equipment is in poorer condition than it was before the war, and its average age is greater. On the other hand, the number of four-axle freight cars is higher, and the percentage of cars with airbrakes and automatic couplings is greater.

The inventory is adequate for current traffic requirements, and under present conditions no shortages of locomotives or other rolling stock are foreseen which will cause restrictions on military or economic traffic in the next 2 years.

b. Effect of Transfers to the USSR.

About $40 million worth of railroad equipment was removed from Hungary by the USSR in 1945-46. In 1947, approximately 6,000 cars were converted to broad gauge by Hungary for use in the Soviet Union. 3/ Hungary also is building a considerable amount of new equipment for the USSR, and it is likely that these deliveries will continue. There is little doubt that such assistance to the USSR has delayed the rehabilitation of the Hungarian rail system. Additional removals from the present inventory would quickly reduce the traffic capacity of the Hungarian system. MAV is operating nearly at capacity in terms of rolling stock and motive power because of the growing demands created by industrialisation. Any withdrawals in excess of 5 percent (2,250 cars) would reduce capacity in direct proportion to the number of units removed. At the expense of full utilization of industrial capacity, it is estimated that possibly as many as 11,000 freight cars could be withdrawn from Hungary without reducing traffic more than 25 percent. This reduction would still allow the essential requirements of the Hungarian civilian economy to be met. Since these cars, however, would represent only an infinitesimal addition to the Soviet car park and would not substantially improve the Soviet rolling stock situation, it seems unlikely that the USSR will remove additional freight cars from Hungarian inventories except in an extreme emergency.

3. Indirect Contributions.

a. Role of Railroads in Soviet Trade.

(1) Extent and Nature of Traffic with the USSR and the Satellites.

More than 75 percent of Hungary's foreign trade is with the Soviet Bloc, approximately half of this being with the Soviet Union. Hungary's railroads carry the largest part of Soviet-Hungarian traffic, plus a good deal of Swiss, Austrian, and Czechoslovak traffic with the USSR. In this connection, MAV handles about 100 metric tons a day of Austrian shipments in transit to the USSR.

(2) Importance of Traffic to the Soviet Economy.

Soviet-Hungarian rail traffic is of only moderate importance to the economy of the USSR. Agricultural products, bauxite, and railroad equipment are the main Hungarian commodities shipped to the USSR. Deliveries of new rolling stock amount to less than 2 percent of total Soviet annual availability. Bauxite shipments from Hungary are carried to the USSR largely via the Danube, moving by rail only as far as Hungary's Danube ports.

b. Role of Railroads in Trade with the West.

(1) Extent and Nature of Traffic.

Hungary is a key link in the Soviet line of communications with Soviet-occupied Austria. Vienna is a principal gateway for Orbit trade with the West, particularly West Germany and Switzerland. This trade is not large in volume but includes many commodities in short supply within the Orbit, such as machinery, parts, tools, and chemicals. The total volume of this traffic is not known.

(2) Clandestine Traffic.

Much of the Hungarian rail traffic with Western countries is clandestine. Moreover, as Western export controls are extended, an increasing percentage of Hungarian-Western traffic will turn to illicit channels, although the total volume of traffic presumably will decline. The present volume of clandestine traffic is not known.

(3) Importance of Traffic to the Orbit Economy.

Goods of foreign origin which are routed through Hungary have an importance to the Soviet economy which is disproportionate to their volume. The tonnages of metals, chemicals, machinery, and parts which reach the USSR through Hungary, while small, are in many cases much more important than equal volumes of internal Soviet traffic. Chemicals and machinery, which are in extremely short supply in the USSR, cross Hungary

at a rate of more than 100 metric tons a day. 4/ This is a small volume of traffic in relation to total Hungarian rail shipments, however, and the bulk of MAV-borne traffic is in commodities of secondary importance to the economy of the USSR.

4. Inverse Contributions.

a. Equipment.

Hungary requires no railway equipment from the USSR and, on the contrary, contributes several categories of equipment to that country.

b. Materials.

Hungary contributes several categories of railway materials to the USSR but requires none in return.

c. Manpower.

Hungary has enough unskilled railroad laborers for present needs but has insufficient numbers of trained engine drivers and workshop mechanics. These shortages are not acute but might become so if MAV were to expand its locomotive inventories rapidly.

d. Soviet Control.

The USSR exercises absolute control of MAV operations. This is accomplished through politically reliable Hungarians placed in positions of authority at all levels in the chain of operational command and through Soviet transport experts assigned to key positions in the MAV central directorate and in the regional directorates.

5. Probable Developments.

It is expected that the entire length of Route 80 between Budapest and Satoraljaujhely will be converted to a high-capacity, double-track line by the middle of 1952, if not before. It is probable that a new transloading station will be constructed at Satoraljaujhely before 1953. Lines between Debrecen, Budapest, Szekesfehervar, and the Yugoslav frontier probably will be strengthened in 1951 and 1952. It is not expected that inventories of locomotives and freight cars will be increased appreciably in 1952. While these developments will contribute somewhat to the strategic value of the Hungarian rail system to the USSR, they will not appreciably increase Hungary's contribution to the Soviet economic potential for war.

B. Highways.

1. Direct Contributions of Highways to the Economic Potential for War of the USSR.

The condition of the Hungarian road net is generally good. Ten percent of the system can support heavy traffic over extended periods of time, and almost 90 percent can carry moderate traffic throughout most of the year. Normal operations, however, are not believed to approximate capacity.

The road network is well-distributed, and the completion of roads and bridges now under construction will tie virtually all Hungarian communities into the national transportation system. Plans for the subsequent improvement and expansion of the highway network are modest. The need for further development, considered from either an economic or a strategic point of view, is apparently not considered urgent by the USSR and Hungary.

a. General Description of the Network.

The length of the Hungarian road system has not changed materially since before World War II. Its total length is about 30,000 kilometers. Slightly more than 3,000 kilometers are hard-surfaced, about 23,000 kilometers are surfaced with crushed stone or gravel, and the remainder of the highways are unimproved dirt roads. 1/ The network centers on Budapest, and the major surfaced highways radiate to the Yugoslav, Austrian, Czechoslovak, and Soviet frontiers.

Highway construction since the war has been concentrated on the restoration of the main arterial routes and the improvement or construction of so-called "junction highways" which connect villages with railroad stations or one of the major highways. The construction program, although modest, has served both economic and military purposes to some extent, but there is no evidence to indicate that military considerations have been paramount in the planning of the construction program.

The Hungarian Three Year Plan called for the hard-surfacing of short stretches (5 to 10 kilometers) of the various major highways, totalling 225 kilometers, and the improvement or construction of 1,400 kilometers of connecting roads. 2/ Despite the limited nature of these goals, actual progress lagged behind plan. The Hungarians attributed this to inadequate funds and the low output of the Hungarian quarries, which in 1948 were producing crushed stone at a rate not exceeding 65 percent of the 1938 rate. The impending nationalization of the quarries, however, was expected to result in increased production sufficient to permit the construction of from 500 to 600 kilometers of connecting roads a year in 1949 and 1950. 3/

The low level of highway construction plans and accomplishments is further explained by the fact that the restoration of bridges has been given a higher priority than road-building. The bridge reconstruction effort has been described as "an outstanding achievement even by Western standards." By January 1950, over 2,000 rail and highway bridges had been reconstructed, and only 106 remained to be rebuilt during the period of the next 5-year plan, including 23 of major importance. 4/

The Hungarian road construction and improvement program is not believed to be of great military significance. Despite reports stating that the construction of bridges and highways to carry weights of 20 metric tons is being undertaken solely for military purposes, such construction apparently is taking place only on a small scale and over short stretches of road of primarily local importance. Moreover, the increased weight of postwar vehicles employed in normal traffic requires more substantial highways and bridges. Reports of concentrated construction work in the Yugoslav border area are unconfirmed. Although the main route from Budapest to the Yugoslav border via Mohacs is to be strengthened under the Five Year Plan (1950-54), only 18 kilometers of this 300-kilometer highway were completed by the end of 1949, and only 160 kilometers of this type of highway were to be built throughout the country in 1950. 5/ The slight military importance of the connecting roads is apparent from the fact that the 107 roads in that category which were under construction at the end of 1949 averaged only about 2.5 kilometers in length. 6/ Furthermore, only 200 kilometers of connecting roads were planned for construction in 1950.

b. Traffic.

The Five Year Plan specifies that in 1954 trucks will haul freight amounting to 170 million ton-kilometers, but this figure represents only 2.5 percent of the total traffic planned for all forms of transport. 7/

The commercial movement of motor freight is the responsibility of the National Trucking Enterprise (TEHERFUVAR) which operates under the Road Transport Section of the Ministry of Communications. This agency is handicapped by a lack of operable vehicles. In mid-1949, TEHERFUVAR owned about 400 trucks, most of them antiquated, which had been requisitioned from private concerns. 8/ This situation continued to prevail in 1950, suggesting that new vehicles, both imported and domestically manufactured, were being allocated to the military or to high-priority construction work. 9/

Assuming that TEHERFUVAR now operates a maximum fleet of 600 trucks, a rough estimate indicates that traffic currently carried by this agency probably does not exceed 750,000 metric tons or 15 million ton-kilometers a year. The vast difference between this figure and the planned total of 170 million ton-kilometers in 1954 suggests that a large proportion of total motor vehicle traffic in Hungary, as in the other Satellites, is carried by vehicles belonging to various Ministries and industrial enterprises rather than to the state trucking organization. The planned

traffic goal nevertheless appears unrealistic unless, contrary to information now available, the planned figure of 170 million ton-kilometers includes animal-drawn as well as motor transport. There is undoubtedly a large amount of horse-drawn traffic which cannot be disregarded in any consideration of the traffic potential of the Hungarian road system.

Although commodity statistics are not available, Hungarian highway traffic is believed to consist chiefly of agricultural produce moved by wagon to railroad stations or distributed by both motor and horse-drawn vehicles within urban areas. In addition, a substantial portion of total traffic consists of short-haul motor trucking of construction materials, industrial raw materials, and finished products in urban areas, particularly Budapest. Motor passenger traffic, both urban and interurban, has developed rapidly in recent years. Although total highway traffic is important to the national economy, there is little long-distance freight traffic, and the country's requirements for essential short-haul traffic, in the absence of adequate motor transport, could be largely fulfilled by animal-drawn vehicles.

c. Equipment.

The organization responsible for the upkeep of roads and bridges throughout Hungary reportedly had at its disposal in 1949 four trucks, two cement mixers, and one concrete paving machine. Various attempts have been made by Hungary to import heavy equipment suitable for the construction of both airfields and highways, but the amount of such equipment actually received is unknown. Initial domestic production of road-building machinery was scheduled to begin during the Five Year Plan period. 10/

d. Capacity.

It is estimated that the major routes across Hungary can accommodate from 1,000 to 2,000 metric tons a day, a figure believed to be well in excess of current operating levels. The factors which limit highway traffic are probably the need for such traffic and the number of serviceable motor vehicles rather than the capacity of the road system itself.

e. Vulnerability.

Since motor transport accounts for only about 2 percent of total Hungarian traffic, the economic vulnerability of the highway network is judged to be slight. Only a limited number of highways are suitable for long-distance traffic, however, and the vulnerability of the system is thereby increased. The fact that the principal highways are in most cases supplemented by rail lines would reduce the economic effectiveness of attacks on highway targets unless rail connections were disrupted at the same time.

Bridges are the most vulnerable points of the highway network, particularly the large Danube and Tisza River bridges. There are

now seven bridges spanning the Danube, five of them at Budapest, and all are over 300 meters in length. Nine highway bridges of 200 meters or more span the Tisza. Destruction of these 16 bridges would cut the highway system into 3 isolated segments.

2. Direct Contributions of Highway Transport Equipment to the Economic Potential for War of the USSR.

a. Inventories.

The following figures have been reported by several different sources, all of which state that the data are from the Hungarian Ministry of Communications: 11/

Hungarian Motor Vehicle Registration
1938-39, 1947-49

	Units at First of Year				
	1938	1939	1947	1948	1949 a/
Passenger Cars	13,225	15,746	6,506 b/	9,421	8,941
Taxis	3,226	3,150		2,730	2,047
Buses	596	668	183	472	633
Trucks	3,486	3,803	7,695 c/	11,231	9,340
Other	762	841		826	735
Total	21,295	24,208	14,384	24,680	21,696

a/ 1949 figures are not totals, since all registrations were not collected prior to the deadline.
b/ Includes passenger cars and taxis.
c/ Includes trucks and other vehicles.

It is noteworthy that about 70 percent of all vehicles of all types are registered in and presumably operated primarily in the immediate vicinity of Budapest. The number of trucks in Hungary is now far above prewar levels, whereas the number of passenger cars is only about 60 percent of the prewar level. The number of motorcycles has tripled since before the war, increasing from 9,475 in 1938 to 26,239 in 1949. 12/

Although data after 1949 are not available, reports of some deliveries from outside sources and the fact that Hungary has a well-established and expanding motor vehicle industry suggest that the number of motor vehicles may exceed 30,000 in 1951. The percentage of this total which is available for the use of the civilian economy is uncertain. One report states that in August 1948 the Hungarian Army had 104 trucks, 87 passenger cars, 6 reconnaissance cars, and 4 ambulances. 13/ A more recent report maintains that in 1950 the Army had 6,800 trucks, 1,400 jeeps and passenger cars, 300 ambulances, and 60 radio cars. 14/ These figures, if correct, indicate a rapid expansion of the motor vehicle

strength of the Army, and it is possible that 50 percent of the total Hungarian truck inventory is now assigned to the military. It appears likely that a substantial part of this military expansion has been achieved through imports of surplus US Army vehicles from Western Europe. The US Military Attache in Budapest estimated in July 1950 that from 4,000 to 5,000 vehicles of this type had been received by that time, with approximately two-thirds of the total being assigned to the Hungarian armed forces and police. 15/

The average age and condition of the Hungarian motor vehicle park have undoubtedly improved since 1946. The availability of spare parts for postwar vehicles and the number and equipment of repair facilities are believed to be adequate at the present time. The procurement of spare parts for the older vehicles, which embrace a multitude of origins, makes, and models, still presents a problem, particularly in the Army. This difficulty is diminishing, however, as increasing new production makes possible the retirement of much of the older equipment.

b. Effect of Transfers to the USSR.

So far as is known, no transfers to the USSR have taken place either from Hungary's motor vehicle inventory or from its current production. Shipments of motor vehicles in limited quantity to Rumania are recorded, and it is probable that Bulgaria, Albania, and possibly Poland have received small quantities of Hungarian-built trucks.

The relatively undeveloped state of Hungarian motor transport and the small percentage of total traffic which it carries suggest that possible future transfers of motor vehicles to either the USSR or the other Satellites would not have a serious disruptive effect on the Hungarian economy. If, however, large-scale transfers including carts, wagons, and draft animals should occur, the effect would be more pronounced.

3. Indirect Contributions.

a. Role of Highway Transport in Soviet Trade.

Although some motor vehicle traffic presumably takes place between Hungary and the USSR, no data permitting discussion are available.

b. Role of Highway Transport in Trade with the West.

There is no regular motor vehicle traffic between Hungary and the West. Possibly some clandestine trade of this type does occur through Czechoslovakia and the Soviet Zone of Austria, but data sufficient to permit worthwhile analysis are not available. The Hungarian civil economy has received automotive equipment, particularly spare parts, from the West, but generally in insignificant amounts. Delivery of Western vehicles to the Hungarian Army, on the other hand, is believed to have been of some magnitude and of considerable importance.

[redacted]

4. Inverse Contributions.

a. Equipment.

The USSR could facilitate Hungarian highway construction and improvement by supplying road-building machines, but there is no evidence that this has been done. On the other hand, unless the current low level of planned road construction in Hungary is substantially revised, the importation or use of much mechanized equipment will not be required. Hungarian motor vehicle production eliminates the need for extensive vehicle imports unless expansion of the inventory is to be accelerated markedly.

b. Materials and Manpower.

With the exception of bitumen, which is imported from Albania and Rumania, Hungary is believed to possess normally adequate supplies of highway construction materials. There is some evidence, however, that below-plan production of crushed stone has retarded construction. Possibly some steel for bridges and vehicle construction is imported from the USSR. A persistent shortage of gasoline is evidenced by continued rationing and the forced conversion of many vehicles to the use of substitute fuels. 16/ Although a shortage of truck drivers has been reported in Hungary, this deficit could be easily eliminated without outside assistance. Engineering and technical personnel are in adequate supply.

c. Soviet Control.

Although exact details are unknown, Soviet control of Hungarian highway transport is probably extensive. There are indications, for example, that road construction and improvement projects are ordered by Soviet military officials. 17/ It is likely that the state trucking transport company is subject to strict Soviet direction. 18/ Soviet personnel presumably hold positions of importance to highway transport in the Hungarian Ministry of Communications.

5. Probable Developments.

There is little likelihood that Hungarian motor transport will measurably increase in economic importance during 1951 and 1952. Expansion and improvement of the road system, already adequate for current needs and in relatively good condition, will be slow and of little consequence. The major effort of the motor vehicle industry probably will be directed toward the modernization of the military vehicle park, while the development of commercial trucking will progress haphazardly and achieve only minor results. Both actual and possible contributions of Hungarian highway transport to the Soviet economic potential for war will remain small.

C. Water Transport.

1. Direct Contributions of Water Transport to the Economic Potential for War of the USSR.

The waterways of Hungary contribute appreciably to the Soviet potential for war. The most significant contribution is the availability of Hungarian ports and inland water transport for the movement of bulk cargoes, principally bauxite, to the USSR. The waterway system is also of potential military value for support of Soviet-Satellite operations against Yugoslavia.

a. General Description of the Network.

Although Hungary has no maritime ports, a number of river ports are of importance to water transport. These are located on the Danube and the Tisza, the only Hungarian rivers of any economic consequence, which run roughly north and south across the country. The Danube is the main waterway of Hungary. Along its course are several ports, including Budapest, which not only is the major port of Hungary but also is one of the principal ports of the entire Danube system. During the high water season, Budapest is accessible to ocean ships of shallow draft (under 12 feet). In addition to Budapest, there are about 11 other Hungarian ports on the Danube, but only a few of these are of economic importance.

Navigation on all Hungarian rivers, including the Danube, is hampered by dependence on rainfall and by ice, which limit somewhat their economic and strategic significance. This is particularly true of the Tisza, on which navigation is frequently restricted by low water.

b. Traffic.

The waterways account for only a small portion of the total traffic carried by the Hungarian transport network. The ton-kilometer performance of the waterways, for example, is probably less than 5 percent of that of the rail system. The total tonnage (domestic and transit) moved on the waterways is estimated to have been about 1 million metric tons in 1947 and has probably increased since then. The Hungarian waterway system carries coal, ores, petroleum products, building materials, grain, and other bulk cargoes. Its carriage of other products is insignificant. Coal constitutes about one-third of the total traffic, while ores, notably bauxite, constitute another third. The bulk of this traffic moves on the Danube, while the Tisza and other rivers are used chiefly for the movement of agricultural products and lumber. Traffic reaches its peak during the late spring and summer, with the decline thereafter depending primarily upon the water level. The volume of traffic during the summer months is usually more than double that of the fall months, and the winter is a season of relative inactivity because of unfavorable navigation conditions.

The transport of bauxite, an ore of considerable strategic value to the USSR, is of primary importance in Hungarian waterway traffic. Bauxite

for export to the USSR is loaded at the ports of Csepel, Adony, and Komarom. Komarom is the principal port for this traffic, loading as much as 3,000 metric tons a day when navigation conditions permit. The port of Adony is reported to be the second largest bauxite port in Hungary, with a capacity of 1,000 metric tons a day. 1/ The cargoes are discharged at the Bessarabian port of Izmail in the USSR.

c. Equipment.

With the exception of a few larger ports such as Budapest and Komarom, the facilities of Hungarian ports are extremely poor. Cargo cranes are small, quays are inadequate, and storage facilities are often insufficient. Rail and road clearance facilities are not limiting factors on port traffic at present, but probably would prove inadequate for large-scale traffic movements.

It is evident that Hungarian authorities are aware of the deficiencies of the waterway system and are taking steps to remedy them. Canal projects, channel clearance work, and port expansion and rehabilitation are going ahead as fast as available resources permit. It is likely that conditions will improve within the next few years but probably not significantly before the end of 1952.

d. Capacity.

The capacity of the Hungarian water transport system fluctuates widely according to the season of the year and prevailing weather conditions. An extremely tentative estimate of capacity would be on the order of 500 million ton-kilometers annually, which is well above present estimated traffic levels.

e. Vulnerability.

Hungarian ports and waterways are considered to be quite vulnerable to hostile action. Port installations are in many instances still handicapped by the damage inflicted in World War II. Mines can be laid in the channels, and such installations as sluices and locks can be put out of commision by air attack.

In the event of attack upon the waterway system, if the rail network remained undamaged, the railroads could carry a substantial part of the traffic that now moves down the Danube to Rumanian Black Sea or river ports for transshipment to the USSR. The rail lines, however, probably could not carry all of the more important traffic, particularly bauxite and petroleum, which would require additional specialized railway equipment.

The position of Yugoslavia athwart the Danube route between Hungary and Rumania makes the Hungarian inland water traffic with the USSR vulnerable. Since Yugoslavia's own Danube traffic, though subject to retaliation, is now at a minimum, the Orbit's transit traffic across

Yugoslavia must be considered vulnerable to interruption by that country. Such interruption has occurred only in a few isolated instances.

2. Direct Contributions of Shipping to the Economic P tential for War of the USSR.

a. Inventories.

The Hungarian merchant fleet is composed of a small number of vessels of inferior quality. Many of the ships are old, tonnage capacities are small, and the vessels are generally poorly maintained and operated. The fleet is constituted approximately as follows: 4 small seagoing freighters of about 1,000 gross registered tons each, 12 passenger ships of from 40 to 92 meters in length, 27 tugs of various types, and 9 diesel barges. There are in addition about 70 dumb barges for general cargo and 14 dumb barges for petroleum cargoes.

b. Effect of Transfers to the USSR.

Transfer of the few ocean-going ships in the Hungarian fleet to the USSR would have little effect on the economy of either country. Transfer of the river fleet, however, probably would work a hardship upon Hungary. This fleet is still greatly reduced from its prewar level, and, although traffic is also at a lower level, the river transport plans of the country probably would not be accomplished if a considerable number of craft were requisitioned by the USSR. In view of the small size of the ocean fleet, the essential nature of the river traffic, and the lack of any reserve in the fleet inventory, it is not likely that the USSR will requisition and remove any large part of the Hungarian fleet.

Transfers to the USSR from the Hungarian fleet have been negligible, but a large part of the current production of Hungarian shipyards is going to the Soviet ocean and river fleets. Since 1945 the Ganz shipyard alone has sent at least 16 seagoing ships to the USSR. Although Hungarian ship production includes craft up to 1,200 gross tons, such vessels constitute only a small part of the total output, production being confined primarily to smaller vessels. 2/ In view of the Hungarian need for new ships in both the river fleet and the merchant marine, it is unlikely that the USSR will increase its present demands on the Hungarian shipbuilding industry. Moreover, Hungary's capacity for shipbuilding is so limited that the numbers of additional ships available for acquisition by the Soviet Union would be of little importance. On the other hand, such acquisitions would effectively prevent expansion or modernization of the Hungarian fleet. It is expected that ship deliveries to the USSR will be of little economic significance for some time.

3. Indirect Contributions.

a. Role of Water Transport in Soviet Trade.

The Hungarian ocean fleet plays little part in Soviet trade. The river fleet, however, plays an important role in the movement of

Hungarian-Soviet water traffic to Black Sea or lower Danube transshipment points. Traffic from Hungary to the USSR consists primarily of ores, especially bauxite, as well as grain, small quantities of petroleum products, and some industrial equipment. It is estimated that Hungary annually supplies approximately 300,000 metric tons of bauxite to the USSR, about one-third of the current Soviet consumption of this ore. The bulk of the bauxite traffic from Hungary is moved over the Hungarian waterway system, which thus contributes directly to the Soviet economic potential. Hungarian imports by water from the USSR consist primarily of iron ore, coke, cotton, and agricultural and industrial equipment.

b. Role of Water Transport in Trade with the West.

Hungarian water transport is of little or no consequence in trade with the West. The ocean-going fleet plays no part in Western trade, and the inland fleet is engaged primarily in intra-Orbit traffic. Hungarian shipping, moreover, plays no part in clandestine traffic with the West, although an occasional Hungarian ship carries clandestine cargoes to Albania.

4. Inverse Contributions.

At present Hungary receives little or no assistance from the USSR in rehabilitating and developing its transport facilities. If circumstances necessitated a considerable increase in traffic movements on Hungarian waterways, Soviet assistance would be required in several forms. Hungarian ports would need improved cargo handling facilities for bulk cargoes and petroleum, additional storage facilities, and considerable dredging of channels. The fleet would need to be rapidly expanded, probably to a point beyond the present capabilities of the country's shipyards, even if deliveries of new tonnage to the USSR were halted.

Manpower probably would not be a serious problem unless the ship construction program were greatly expanded. The present level of labor productivity and supply in Hungary is believed to be adequate for any program likely to be undertaken.

Complete Soviet control over all aspects of Hungarian shipping operations and production can be expected to continue indefinitely.

5. Probable Developments.

It appears likely that there will be an appreciable improvement in Hungarian water transport in 1951 and 1952. The economic plans of the country place considerable emphasis upon development of the inland waterway system. It is reasonable to expect, for example, some expansion of cargo handling capacity in key ports such as Komarom and Budapest. The waterways undoubtedly will be improved through dredging and the installation of traffic aids. It is also probable that the fleet will be augmented by several thousand tons of small ships through domestic construction and salvage operations. These improvements, however, almost certainly will not be important enough to produce a major effect on either the Soviet or the Hungarian economic potential for war.

D. Air Transport.

1. Direct Contributions of Air Transport to the Economic Potential for War of the USSR.

a. General Description of the Network.

The Hungarian airfield network consists of 27 airfields. 1/ Nine are designated exclusively for civil aviation, and two others are shared jointly with the military. Paved runways exist at Budapest/Tokol, Debrecen, Ferihegy/Vecses, Papa, Kaposvar New, Kecskemet, Kiskunlaczhaza, Kunmadaras, and Gyor. The first four of these fields have runways of over 6,000 feet, suitable for use by four-engine transports. Three are military bases, while Ferihegy/Vecses is reserved for civil aviation. This airfield, at which a second long runway is being built, will become a large, modern installation. Paved runways at Kaposvar New and Kunmadaras are being lengthened to provide additional facilities for military aircraft.

b. Traffic.

Civil air transport operations are carried on in Hungary by a joint Soviet-Hungarian airline, Magyar-Szoviet Polgari Legiforgalmdr T. (Maszovlet). Traffic is light, and the airline, which is not a profitable undertaking, is supported by state subsidies. 2/ In 1948 and 1949 the Hungarian press announced the total of passengers carried for those years as 26,040 and 52,500, respectively. 3/ The volume of passenger traffic in 1950 was stated to be 159.5 percent of that in 1947, a year for which no base figure has been made public. Air freight has doubled since 1947 and is estimated for 1951 as likely to be 257.6 percent of 1947, 4/ but again no figures are available for 1947.

Domestic air routes radiate from Budapest, two of them international routes.

Hungarian Air Routes 5/
1951

Route	Frequency
Domestic	
Budapest-Gyor-Szombathely	Daily except Sunday
Budapest-Miskolc-Debrecen	Daily except Sunday
Budapest-Miskolc-Nyiregyhaza-Debrecen	Daily except Sunday
Budapest-Siofok-Pecs	Daily except Sunday
Budapest-Szeged-Bekescsaba	Daily except Sunday

International

Budapest-Prague	Three Times a Week
Budapest-Bucharest	Twice a Month

Foreign air traffic into Hungary is limited to the Soviet Aeroflot and the airlines of Rumania, Poland, and Czechoslovakia.

Foreign Air Routes into Hungary 6/
1951

Airline	Route	Frequency
Aeroflot (USSR)	Moscow-Kiev-Lwow-Budapest-Vienna	Weekly
	Moscow-Kiev-Lwow-Budapest	Twice a Week
CSA (Czechoslovakia)	Prague-Budapest	Three Times a Week
LOT (Poland)	Warsaw-Budapest	Weekly
TARS (Rumania)	Bucharest-Arad-Budapest	Twice a Month

c. Equipment.

No modern navigational aids exist at Hungarian airfields, but nondirectional radio beacons at nine major airfields operate on request. There is a British-made (Adcock) DF station at Papa airfield and loop aerial DF radios at Budapest/Budaors and Szombathely. The international "Q" code is used for practically all air-ground radio communications. 7/ In March 1950, Budaors Airfield was serving as the Central Air Traffic Control radio station for Hungary, but it is not known whether or not this function was transferred to Ferihegy when civil air traffic was shifted from Budaors in May 1950. 8/ Fuel storage facilities at Budapest/Tokol consist of underground tanks with a capacity of 60,000 liters of aviation gasoline. 9/ At most of the smaller Hungarian airfields, terminal facilities and ground handling equipment would be considered unacceptable by Western standards.

d. Capacity.

The capacity of Hungarian airfields, at present restricted by second-rate ground facilities and handling equipment, could be greatly expanded for use by Soviet-type air transports. This increase in capacity would require the construction at certain airfields of fuel storage tanks and the installation of modern navigational aids, including airfield lighting equipment. To a very limited extent, such a program is now in effect and should produce some improvement in the air transport potential by 1953.

e. Vulnerability.

Hungarian air transport facilities make little contribution to the USSR's economic potential for war. The airfields, however, as a part of the Soviet-sponsored Eastern European airfield network, contribute to the USSR's economic potential for war to the extent that they could facilitate a rapid build-up in transport operations for the dispersal of strategic supplies and key personnel in the event of hostilities.

2. Direct Contributions of Air Transport Equipment to the Economic Potential for War of the USSR.

a. Inventories.

The state airline, Maszovlet, is credited with 11 LI-2 transports, 10/ but it is possible that 2 of these aircraft have been eliminated in reported crashes. The Hungarian Air Force has a total of four LI-2's and one C-103 light transport of Czechoslovak make. 11/ An unconfirmed report 12/ of October 1950 stated that Maszovlet had placed in service 10 additional LI-2's in order to meet peak traffic requirements. It is not known on what basis or from what source these aircraft could have been obtained and whether they represent a permanent addition to the Maszovlet fleet, but in all probability the transports were temporarily chartered or borrowed from the USSR or Czechoslovakia for military movements or special training operations.

As it is in all European Satellite countries, Hungarian air transport is handicapped by a continuing shortage of spare parts. It is believed that this factor alone would preclude any appreciable increase in operations with the present equipment.

b. Effect of Transfers to the USSR.

Although it is improbable under almost any circumstances that the small Hungarian air transport fleet would be transferred entirely or in part to the USSR, any such reduction in air transport equipment would be reflected in the capabilities of the Hungarian Air Force, which in the past has depended upon Maszovlet aircraft for direct assistance in military training programs. Such transfers to the USSR would not seriously affect the Hungarian domestic economy or commercial air traffic with other Satellite states unless the services now maintained by Polish, Czechoslovak, Rumanian, and Soviet airlines were terminated.

3. Indirect Contributions.

a. Role of Air Transport in Soviet Trade.

The Hungarian airline is not permitted to engage in flights to the USSR. The negligible amount of cargo which is airlifted between the USSR and Hungary is carried by the Soviet airline Aeroflot or by occasional nonscheduled flights of Soviet transports. This traffic is unimportant to the economy of the USSR.

b. Role of Air Transport in Trade with the West.

Hungarian transport aircraft engage in no flights to Western countries. No Western air carriers operate into Hungary. No reports have been received to indicate any clandestine air traffic with Western countries.

4. Inverse Contributions.

a. Air Transport Requirements from the USSR.

Hungary is dependent upon the USSR for transport aircraft and spare parts. The state airline has long been promised Soviet IL-12's to replace its outworn LI-2 transports. The replacements have not materialized, and difficulty is experienced in securing from the USSR the spare parts necessary for continued operations. Hungarian air transportation is not dependent in any way upon the USSR for technical personnel.

b. Soviet Control.

The state airline Maszovlet is a jointly owned Soviet-Hungarian company and is believed to be partly administered by a Soviet managerial staff. In matters affecting general policy of the airline the Hungarian representatives defer to the Soviet.

5. Probable Developments.

No major developments are anticipated in Hungarian air transportation through 1952. The Hungarian Air Force and the civil airline may receive some new Soviet-made transport equipment but not in amounts sufficient to permit greatly expanded operations. Improvements probably will be completed at Ferihegy/Vecses in 1952, and at Kaposvar New and Kunmadaras the runways will be lengthened to 6,000 feet, making them suitable for use by four-engine transports.

VIII. Current Allocations of Economic Resources.

1. Investment and Production in Industry.

The industrial sector of the Hungarian economy accounted for 51 percent of the national income in 1949, and the Five Year Plan (1950-54) contemplates that by 1954 industry will produce 64 percent of the national income. To accomplish this goal, total investment is to increase from 51 billion to 85 billion forints, and large-scale industrial production is to increase to 310 percent of 1949 production. Basic industries, notably coal, steel, iron, and chemicals, are to receive major emphasis in this expansion.

Hungary's postwar record of industrial recovery and development is impressive. Large advances were made in aluminum production, which by 1949 showed substantial increases over prewar levels. Less progress was achieved in the iron ore, crude steel, pig iron, ferroalloy, and cement industries, which were only slightly above prewar levels of output in 1949. Petroleum has shown production gains, but output in 1952 will be considerably less than in 1943.

Hungary is also a significant producer and contributor to the economic capabilities of the Bloc in the fields of heavy machinery and steel products, including weapons and ammunition, electrotechnical products, and precision parts and instruments. Large exports of bauxite ore (approximately 400,000 metric tons in 1949, equivalent to 100,000 tons of refined aluminum) to the USSR served to release badly needed Soviet manpower and equipment for other purposes.

The Hungarian economy will require only 21 percent of heavy industrial production in 1951, and the balance will be available to the Soviet Bloc.

2. Agricultural Development.

Recovery and development in Hungarian agriculture has been conspicuously less successful than in industry, although increased output did make possible the elimination of rationing in 1950. Whereas Soviet control of industry has been greatly facilitated by placement of personnel in key industrial positions, by the military occupation, and by the taking over of German assets of 200 firms, resistance to socialization in agriculture has prevented effective control by the USSR. Only about 14 percent of the tillable land was socialized by 1950, and the Communists are now obliged to consider a mild program for agriculture, similar in concept to the NEP of the 1920's in the USSR. The proportion of the national income produced by agriculture declined from a prewar percentage of 32 to 27 percent in 1948.

3. Civilian Consumption.

Living standards in Hungary had attained and possibly exceeded prewar levels by 1950. Housing availability, however, is somewhat below prewar levels.

4. Contributions of the Economy to the War Capabilities of the USSR.

Hungary is one of the important industrialized European Satellites. Its trade has been drastically reoriented since the war. The USSR and Czechoslovakia have replaced Germany, Austria, and the UK as major trading partners. Industrial raw materials and equipment are supplied by Hungary to Bloc countries, and in 1950 it exported about 200,000 metric tons of petroleum products to the USSR, Poland, and Czechoslovakia.

The Hungarian economy is hampered by the lack of high-grade iron ore, bituminous coal, ferroalloys, several nonferrous metals, machine tools, heavy electrical machinery, chemicals, rolling stock, fibers, and skilled labor. In some instances, substitutions are being made for materials in short supply, as, for example, in the diversified utilization of aluminum. Soviet interest in the economy is in joint companies which exploit river navigation and petroleum, bauxite, and aluminum resources.

IX. Estimated Degree of Vulnerability to Western Economic Warfare.

1. Major Imports.

Hungary has been successful in obtaining sizable imports from the West of commodities needed in the Soviet Bloc. Imports consist chiefly of machine tools, agricultural machinery, industrial raw materials, and semimanufactures. The UK, Austria, and Switzerland are Hungary's leading Western trade partners. Through clandestine trade operations, Hungary imports copper, tin, molybdenum, cadmium, nickle, cobalt, chrome, and the alloys of these metals. The value of total Hungarian imports from the West is small, but the composition of this trade is of considerable significance.

A Western embargo on trade with Hungary would retard both current industrial production and long-range industrialization. Since 1948, imports from the West have declined, and Hungary now obtains the major share of its imports from Bloc sources. Czechoslovakia and the USSR export to Hungary industrial equipment in increasing amounts. East Germany and Poland each year supply a greater portion of Hungary's chemical and electrode imports. As the economic integration program of the Soviet Bloc becomes more effective, Hungarian dependence on Western imports will continue to decline in 1951 and 1952.

2. Degree of Vulnerability of Major Sectors of the Economy.

The denial of Western supplies of industrial goods such as machinery, nonferrous metals, and raw materials would have an adverse effect on the Five Year Plan (1950-54) industrialization, which places major emphasis on the expansion of heavy industry. The country has plans for producing ball and roller bearings, but production has not yet begun, and Hungary still must import these items. Western denial of ball and roller bearings would create shortages and cause disruption in heavy industry. Withholding of Western supplies of nonferrous metals would also retard the industrialization program, since such shortages could not be readily solved by reallocation of Soviet Bloc resources. Similarly, because of the emphasis placed on state mechanization of agriculture, Hungary has a definite need for Western agricultural machinery, and failure to obtain these imports would retard the agricultural mechanization program.

Cotton, hides, skins, and textiles imported from the West would, if embargoed, reduce the availability of consumer goods. This would have only a negligible adverse effect on the economy, since current imports of materials for light industry are slight. A complete cessation of imports in this category would result only in a temporary increase in unemployment and some reduction of output.

3. Compensating Measures to Offset Western Economic Warfare.

Compensating measures available to the Hungarian economy to offset Western economic warfare are limited. The rate of industrialization could

be reduced without damage to the economy, but such retardation of Hungarian industrial development would of course curtail its contribution to the Bloc potential and result in capital waste and temporary unemployment. The production pattern, which now places high priority on expansion of heavy industry, would have to be modified to adjust to the limitations set on availability of industrial materials within the Bloc.

Conversely, a Western boycott would increase domestic supplies of agricultural products. Hungary could not expect increased allocations of Bloc resources in return for diversion of its agricultural exports from the West to the Satellites, because the Bloc as a whole is itself an exporter of foodstuffs. Presumably an increased supply of domestic agricultural products would aid in controlling existing inflationary pressures in Hungary.

Opportunities for substitution to offset the effects of Western economic warfare measures would be limited in Hungary. Aluminum could be substituted for copper to some extent, but this substitution could not be carried very far, for the Soviet Bloc is already using aluminum for copper wherever practical in the electric power industry. In general, the low levels of technology and the extent of present development of Hungarian industry would restrict the possibilities of substitution for materials in short supply.

Effective Western export controls, while retarding Hungarian industrial expansion, would not cause a reduction in availabilities of most consumer goods.

Western economic warfare measures directed against the Soviet Bloc as a whole would retard Hungary's long-range plans for industrialization more effectively than measures directed against Hungary alone. The bulk of Hungary's imports, coming from within the Bloc, would be reduced if Poland, Czechoslovakia, and East Germany had to curtail industrial production, and this would curtail in turn the flow of goods from Hungary to the USSR.

I. Indications of Preparations for War.

Hungary is becoming an increasingly important supplier of war material to the Soviet Bloc. There is a definite trend toward conversion of facilities to military production, and heavy industrial production is expected in 1951 to be 133 percent of the 1950 level.

A most important recent indicator of preparations for possible hostilities is the prospective allocation of 85 percent of iron and steel production to military use beginning 1 January 1951. Labor has shifted from agriculture to industry in considerable numbers. The railroad network is being strengthened by a current program of improvements that would expedite large-scale westward traffic movements in the event of war. Increases and shifts in the composition of the motor vehicle inventory indicate a rapid build-up of army vehicles. Stockpiling, however, is not believed to be extensive, since most commodity surpluses are being exported to other countries of the Bloc. Hungary is placing heavy demands on its natural resources in an attempt to support industrial expansion and is also embarking on projects, such as the rapid development of cotton production, in which no natural economic advantage is apparent.

[redacted]

APPENDIX A

RECAPITULATION OF LIMITATIONS, DEFICIENCIES, AND REQUIREMENTS OF INTELLIGENCE

Sections III, VIII, IX, and X do not have material to be included in this Appendix.

I. Trends in the Structure of the Economy.

The weaknesses reflected in this paper arise in part from the meager background material readily available. A further limitation stems from the apparent absence of previous studies of this nature and of an adequate collection of materials on which such a study could be based. Moreover, in the short time available it has not been possible either to canvass fully or to evaluate completely all sources of information, and, therefore, the following list of deficiencies and requirements can be considered as only tentative.

Further information is needed on the following:

1. The role of Soviet advisors in Hungarian economic planning and plan control.

2. The extent to which Soviet advisors participate in Hungarian planning.

3. The nature and extent of the economic contributions which Hungary is expected to make to the Soviet Bloc.

4. The nature and extent of Soviet pressures and demands with regard to Hungarian production.

5. The nature and extent of Soviet demands with regard to reparations and trade agreement obligations and implementation.

6. The texts or substance of Soviet-Hungarian economic agreements concluded since 1947.

7. The nature, extent, and results of Soviet control of the joint Soviet-Hungarian companies.

[redacted]

[redacted]

8. Hungarian adoption of Soviet economic programs or organizational patterns.

9. Text or substance of the revised Hungarian Five Year Plan (enacted in May 1951).

10. Text or substance of the annual plan for 1951.

11. Degree of plan fulfillment.

12. Major problems and difficulties encountered in plan fulfillment.

13. Organizational structure, functions, and key personnel of the economic ministries, directorates, and other major administrative organs.

14. Organizational structure, functions, and key personnel of such planning agencies as the National Planning Office, the State Control Center, and the Central Statistical Office.

15. Planning functions of the economic ministries, directorates, and other major administrative units.

II. Capacity of Human Resources for Economic Development.

The latest Hungarian data on the distribution of the population by age and occupation are obtained from the census of 1941. Postwar changes in total population, sex, and urban-rural distribution are shown in the preliminary announcements of the 1948 census. Age and occupational tabulations of the 1948 census are urgently needed. Lacking these, postwar changes in broad industrial groups can be estimated, probably with a margin of error of 5 percent, from announcements of plan achievements. Material on agricultural employment, however, is much less satisfactory, and the figures shown in the text have a probable error of about 10 percent. The estimates shown are arrived at by projecting prewar agricultural employment with allowance for corrections brought about by collectivization. While school enrollment figures are published, the number of graduates are not, and only broad fields of specialization are tabulated. Labor overtime and absenteeism data are not available after the middle of 1949.

Official statistics released by the Statistical Bureau are available in the Bureau of Economic Statistics through 1949 and cover a wide variety of subjects, including sex and geographic distribution of the population, birth and death statistics, productivity, overtime, absenteeism, and school enrollments. This type of information is needed for later years, since official statistics are now less comprehensive.

[redacted]

[redacted]

Additional information on actual working conditions, norm levels, and the training and recruitment programs would be desirable.

IV. Foreign Trade and Finance.

Information on intra-Orbit trade is meager after 1948. There is insufficient available information on agreements, commodities, delivery schedules, prices, and especially on changes made through the recently completed long-term agreements. Correlation of available information on trade with that on industries, commodities, and consumption patterns is incomplete.

V. Agriculture.

Prewar statistics on Hungarian agriculture are fairly adequate and readily available. Additional analyses, however, are required to establish more useful prewar bases for production, requirements, and trade patterns.

Postwar information has become increasingly unreliable and vague. The main sources of information have been newspapers and radio broadcasts (FBIS). Production estimates would be more accurate if dependable weather information were available.

VI. Industrial Capacity and Levels of Production.

A. Ferrous Metals.

25X1C

[redacted] have provided excellent material on the iron and steel industry, particularly on the difficulties experienced with raw materials received from the USSR and on the confusion and waste in the industry as a result of accelerated production schedules. Accurate information is needed, however, on the following:

1. Success in the production of metallurgical coke from low-grade coal mined in the country.

2. Location and description of iron ore and manganese deposits, mines, and concentrating plants.

3. Descriptions of installations and equipment of existing iron and steel plants to be used as a basis for a detailed plant study.

4. Actual production of all raw materials and semifinished products of the iron and steel industry from 1946 to date.

5. Consumption of raw materials by the industry from 1946 to date and consumption of iron and steel products within Hungary by industry.

[redacted]

6. Import and export trade in iron and steel raw materials and products from 1946 to date and trade agreements with detailed commodity exchange lists.

7. Information on the increased targets of the iron and steel industry for the Five Year Plan, announced in March 1951.

B. Nonferrous Metals.

Information is lacking on the following:

1. Copper.

a. Recent production from ores and scrap.

b. Enlargement of facilities, mines, mills, and smelters.

c. Number of rolling mills.

d. Stocks.

e. Operating status and production capacity of the Kosak line.

2. Lead and Zinc.

a. Production.

b. Recent requirements.

c. Stockpile.

d. Operating status and production capacity of the Nagborszony and Gyongyosoroszi mines.

3. Aluminum.

a. Latest production figures.

b. Plant layout and facilities, including location of plants.

c. Number of electrolytic cells and rotary kilns at plants.

4. Other Nonferrous Metals.

a. Antimony.

(1) Present rate of production and expected increases.

(2) Latest information covering requirements, stockpiling, and exports, if any, with destination.

(3) Any new developments in mining, new plant construction, and enlargement of present plant facilities.

C. Coal.

The following information is required:

1. Annual coal production figures by mines and districts for 1949 and 1950, as well as Plan figures for 1951.

2. Confirmation of data contained in State Dasp. 652, 15 March 1951, CIA 584897, giving revised Plan figures for 1954.

3. Data on the consumption and requirements of coal and coke by categories of consumers in 1950 and plans for the future.

4. Import and export figures for coal and imports of coke in 1950 and amounts planned for 1951.

5. Information on the size of stockpiles at the end of 1950.

6. Data on the location and production of briquette plants.

7. Data on the production of metallurgical and gas house coke.

D. Petroleum.

The following gaps in information are noted:

1. Size and location of stockpiles.

2. Activity in eastern Hungary.

3. Consumption by quantity, product, and consumer group.

4. Location, capacity, and output of individual operating refineries.

5. Crude oil production statistics by fields and total.

6. Foreign trade by quantity, product, and origin or destination.

7. New construction, either refinery or storage.

E. Electric Power.

3. Internal Limitations.

a. Energy Resources.

Sufficient information is available to permit an evaluation of the quality, adequacy, and availability of the prime sources of electric energy.

b. Electricity Generating Plants.

Intelligence material on the location, type, and size of plants is sufficient to estimate over-all national electric capacity for the purpose of determing the position of the industry relative to those of other nations. There are, however, wide gaps in current information on the condition of plant equipment and the adequacy of boiler installations, factors which determine the capability to deliver power at the full electric rating of the generators. Further research of IR records may narrow these gaps, but much additional 25X1C intelligence material is required to permit reliable estimates of effective capacity. Another inadequacy of intelligence is the lack of data on the construction progress on new plants with estimated dates of completion and reasons for failure to meet construction schedules. Suggested sources for plant information are [redacted]

25X1C

c. Transmission Systems.

Considerable information is available on prewar transmission lines, but the degree of postwar restoration and expansion cannot be clearly determined from available information. Information is requested on the progress of construction of the main 110,000-volt system eastward from Budapest to Miskolc and its branches.

4. Production. 25X1C

Available production statistics are entirely inadequate, and current figures apparently are a closely guarded state secret. No reliable postwar figures stating production in terms of kilowatt-hours on an annual or monthly 25X1C basis are available. It is necessary to base estimates on computations from stated percentages and indices. [redacted]

5. Consumption.

The deficiencies relative to production exist as well in data on consumption and the electrical requirements of specific industries such as

steel, chemicals, and metallurgicals. This deficiency may be reduced by applying empirical standards of electric requirements against the volume production of commodities, but further intelligence material is needed.

6. Input Requirements.

While information under this heading is by no means complete, the gaps are not considered critical.

7. Vulnerability.

Available information is not sufficient to determine the needed amount of new and replacement electrical equipment, and thus the requirements of raw materials for its manufacture cannot be estimated.

F. Chemicals.

1. Synthetic Ammonia.

There is a great need to know more of the current operations of the Pet Nitrogen Works at Petfurdo, the sole Hungarian installation producing synthetic ammonia, nitric acid (dilute and concentrated strengths), and ammonium nitrate.

There is a possibility that some of "Pet Salt" production has now been cut, and more exact information is required as soon as possible. Additional details on present capacities and production rates for the manufacture of synthetic ammonia, nitric acid, and ammonium nitrate are also desired.

2. Sulphur and Pyrites.

Little reliable information on Hungary's production and trade in sulphur and pyrites is available. The existing world shortage of sulphur and the future shortage anticipated in pyrites make the procurement of such information increasingly important.

3. Rubber.

Recent information is lacking on rubber fabrication installations, and any data on rubber goods production, especially tires, would be helpful. A constant check should be kept on any installation of synthetic rubber facilities. Data on facilities and production of carbon black are needed. Little information is available on rubber chemical procurement or availability.

[redacted]

G. Engineering Industry.

For most sectors of the Hungarian engineering industry and a majority of the important plants, recent information is available in adequate volume and is derived from numerous sources. Weaknesses of recent supporting information are as follows:

1. Prices and materials and labor input data to provide estimates of productivity and measures of output.

2. Factual reporting of plant data for a few particularly significant facilities, especially in the electronics field, the precision instrument industry, and several of the recently expanded munitions plants.

3. Indications of military requirements.

4. Indications of the degree of potential support likely to come from the USSR and other Satellites in meeting Hungarian import requirements for critical materials and products.

5. The organization and potential capacity of the aircraft industry.

VII. Transportation.

A. Railroads.

Reliable information is lacking on all aspects of Hungarian railroad transportation. Accurate data concerning equipment inventories, traffic, new line construction, and current rates of equipment production have not been available since 1949. Detailed information on the nature and volume of traffic is particularly required, as well as data on network developments planned for the next 4 years.

B. Highways.

The major deficiency in intelligence information on Hungarian highway transport is the lack of detailed data concerning all aspects of highway traffic. Highway transport is employed by numerous segments of the national economy--agricultural, industrial, military, commercial, and governmental--among which the total vehicle park, including both motor vehicles and animal-drawn equipment, is distributed according to requirements. In order to estimate accurately the over-all capability and vulnerability of Hungarian highway transport, the allocation of vehicles among these segments of the economy and the nature and quantity of all types of highway traffic movements must be ascertained.

[redacted]

C. Water Transport.

There are several major gaps in intelligence on Hungarian water transport. Little recent, detailed information is available on the traffic performance of either the maritime or the inland fleet. Details of the condition and cargo-handling capacities of the ports are needed. Additional information on the nature and volume of water transport traffic with the other Satellites, the USSR, and the West would also be useful.

D. Air Transport.

Continuing reports are needed concerning improvements to Hungarian airfields and air facilities, including installation of modern radio aids to navigation and airfield lighting equipment. Such information might indicate preparations for commencement of night flying and therefore a capability for increased transport operations.

No information is available regarding the 10 LI-2 aircraft recently employed during peak traffic conditions. It would be useful to learn from whom and on what basis these aircraft were obtained, and whether they constitute a permanent addition to the Hungarian air transport fleet. Investigation of the so-called "peak traffic" conditions should be made to determine whether these aircraft were directly connected with military movements or airlift training exercises.

[redacted]

APPENDIX B

FOOTNOTES AND SOURCES

Sections IV, V, VIII, IX, and X do not have material to be included in this Appendix.

I. Trends in the Structure of the Economy.

Sources: Army, ID, Strategic Intelligence Digest, Hungary, Ch. 3, 4; State D-47, Budapest, 8 Apr 1948; Betts, R.R., Central and South East Europe, 1945-1948, London, 1950, p. 118; The Five Year Plan of the Hungarian People's Republic, Budapest, 1950, pp. 4-5, 5-6; Report of the National Planning Office on the Fulfillment of the Three Year Plan (n.d.), p. 1; FBIS, Daily, 18 May 1951; State D-3335, Budapest, 18 Aug 1947; State D-79, Budapest, 15 Jun 1949; FBIS, Daily, 16 May 1951; Hungarian Bulletin, No. 44, 13 Dec 1948; Army No. AG-39, Budapest, 9 Dec 1949; State D-618, Budapest, 1 Mar 1951; State D-121, Budapest, 27 Jul 1949; State D-553, Budapest, 15 Jul 1949; State R-134, Budapest, 5 Aug 1949; [redacted] 25X1A2g 9 Nov 1950, from Ipari Ertesito, 10 Sep 1950; State D-553, Budapest, 2 Feb 1951; State D-219, Budapest, 2 Oct 1950; State D-699, Budapest, 11 Apr 1951; [redacted], 19 Feb 1951; 25X1A2g Army L-2521, Budapest, 11 May 1951; State D-409, Budapest, 9 Apr 1951; [redacted] (from Magyar Kozlonyia, 25X1A2g 20 Jan 1951); State D-628, Budapest, 14 Mar 1951; State R-28, Budapest, 18 Mar 1949; State D-562, Budapest, 7 Feb 1951 (from Szabad Nep, 7 Jan 1951); Report of the National Planning Office on the Fulfillment of the Three Year Plan, p. 5; [redacted] 29 Jan 1949 [redacted] 1949); State D-642, Budapest, 27 Jun 1950.

25X1A2g

II. Capacity of Human Resources for Economic Development.

1. Estimated on the basis of the number of farmers serviced by machine tractor stations and cooperatives, FBIS, 4 Apr 1950; agricultural wage earners, State 525, Belgrade, 12 May 1950; and estimates of unpaid family workers.
2. Increase over previous year announced in FBIS, 25 Jan 1951.
3. Increase during 1951 plan announced in FBIS, 12 Feb 1951.

[redacted]

4. Estimated on the basis of increase planned during Five Year Plan, FBIS, 16 May 1951; achievements to date; and 1951 plan, FBIS, 12 Feb 1951.
5. Estimated from State A9, Budapest, 24 May 1949, plus increase to end of 1949, from 7 Dec 1949, CIA 379371, and National Planning Office Report of results of Three Year Plan, FBIS, 7 Feb 1950.
6. FBIS, 25 Jan 1951.
7. FBIS, 12 Feb 1951.
8. Ibid; FBIS, 16 May 1951.
9. Estimated on the basis of Trade Union membership, 24 Dec 1949, CIA 384022, and 1941 census data.
10. Increase over 1950 estimated from residual within total increment, FBIS, 25 Jan 1951.
11. Estimated from increase planned during 1951, FBIS, 12 Feb 1951.
12. From increase given in FBIS, 4 Jan 1951.
13. FBIS, 5 Jan 1951, among other sources.
14. Census of 1948.
15. State A9, Budapest, op. cit.
16. FBIS, 16 May 1951; FBIS, 12 Feb 1951.
17. Hungarian Press Summary 242, 22 Dec 1950.
18. Bulletin of Economic Statistics No. 2, 1950.
19. Bulletin of Economic Statistics, Apr-May 1949.
20. Bulletin of Economic Statistics, Jul 1949.
21. Ibid.
22. Estimated from past births and past and present deaths in United Nations Demographic Yearbook.

III. Living and Working Conditions.

1. State R-109, Budapest, 15 Feb 1949 (confidential report of the Hungarian National Bank, covering the third quarter of 1948); State A-601, Budapest, 17 Aug 1949; and State D-186, Budapest, 12 Feb 1950 (official report on the results of the Hungarian Three Year Plan).
2. United Nations, Statistical Yearbook, 1949-50, New York, 1950.
3. State R-121, Budapest, 27 Jul 1949; State A-776, Budapest, 25 Oct 1949.
4. State D-620, Budapest, 20 Jun 1950; Hungarian Press Summary 182, AmLeg Budapest, 26 Sep 1950; State D-398, Budapest, 30 Nov 1950; and FBIS, 18 May 1951.
5. State D-208, Budapest, 27 Sep 1950.
6. State R-93, Budapest, 8 Jul 1948.
7. Ibid.
8. State D-186, Budapest, op. cit.
9. CIA/Q-119-M, CD 4756.1, 27 Sep 1948 (citing Egyl az Orszag, Information Service, State Planning Office, Budapest, 1947).

[redacted]

10. State R-76, Budapest, 7 Feb 1949; State R-86, Budapest, 9 Feb 1949; BBC, No. 181, 5 Feb 1951.
11. State R-52, Budapest, 23 May 1949; State R-152-49, CMA Hungary, 21 Apr 1949; State R-40, Budapest, 5 Apr 1949.
12. State D-620, Budapest, 20 Jun 1950; State D-60, Budapest, 27 Jul 1950; State D-749, Budapest, 7 May 1951.
13. State A-776, Budapest, 25 Oct 1949 (citing official Hungarian information).
14. State D-145, Budapest, 29 Jan 1950 (based on a Legation survey).
15. [redacted] 22 Dec 1949 (citing Kis Ujsag). 25X1A2g
16. State R-496, Budapest, 29 Jun 1949; [redacted] 16 Mar 1951; State T-21, Budapest, 18 Jul 1950; and [redacted], 25 Oct 1950. 25X1A2g 25X1A2g
17. [redacted] op. cit. 25X1A2g
18. [redacted] op. cit.; State T-21, Budapest, op. cit.; and [redacted] 25X1A2g op. cit.
19. State A-776, Budapest, 25 Oct 1949.
20. State R-93, Budapest, 8 Jul 1948.
21. [redacted] 22 Nov 1949 [redacted] 25X1A2g 25X1A2g

IV. Foreign Trade and Finance.

1. Statisztikai Tajekoztato 1950, Central Statistical Office of Hungary, Budapest, pp. 16-17.
2. A-477 AmLeg, Budapest, 30 Jul 1948.
3. Dept of Commerce Work Sheets, O.I.T., Western European Division.
4. Foreign Commerce Yearbooks, Hungary, 1938 and 1948; State, Budapest, despatch 73, 10 Jun 1948; FDD Summary 22.

VI. Industrial Capacity and Levels of Production.

A. Ferrous Metals.

Sources:

MA Budapest R 264, 8 Jul 1949; ODI, USFA R516, 24 Oct 1949; [redacted] 28 Feb 1950; MA Budapest IR 53-50, 19 Dec 1950; MA Budapest R 344, 8 Jul 1948; Budapest State Desp. 140, 27 Sep 1948; Budapest State Desp 28, 18 Mar 1949; [redacted] 2 Jan 1951; [redacted] 29 Jun 1949; Army Trust, G-2, R 442-50, 27 Nov 1950; [redacted] 26 Oct 1950; [redacted] OIR 4749, 9 Sep 1948; MA Budapest Jt. Wkly No. 6, 20 Jan 1949, No. 9, 18 Feb 1947; Mineral Trade Notes, Jul 1950; [redacted] CIA Estimates of Production; [redacted]

25X1A2g 25X1A2g 25X1A2g 25X1A2g 25X1A2g 25X1X7 25X1A2g 25X1A7

[redacted]

B. Nonferrous Metals.

1. Rpt 689, AmLeg Budapest, 30 Jul 1948 as to tonnage of ore. Bureau of Mines on grade.
2. Calculations from Bureau of Mines, Mineral Resources of Hungary, May 1945.
3. AmLeg Budapest, Rpt 69, 6 Jun 1949.
4. Rpt B-279-49, ID 576673, 12 Jul 1949 (Raw Materials /Ores and Gases/ of the Hungarian Chemical Industry).
5. Bureau of Mines, Minerals Year Book, 1949.
6. State, OIR Rpt 5365, 28 Sep 1950.

C. Coal.

1. CIA 305249, State Rpt 28, Budapest, 18 Mar 1949.
2. CIA 515009, ID R-162-50.
25X1A2g
3. [redacted].
4. [redacted] CIA 571133, ID R-20-51, 23 Jan 1951.
5. [redacted]
6. FBIS, p. HH3, 8 May 1951.
25X1A2g
7. [redacted] Apr 1949.
8. [redacted] 30 Apr 1951.
9. [redacted] 8 Nov 1950.
10. CIA 309388, State Rpt 315, Budapest, 27 Apr 1949.
25X1A2g
11. State Tel 1478, 5 Nov 1948; [redacted] 15 Feb 1949; ID RT-52-49, 8 Feb 1949.
12. E/ECE/Coal/ETP/14, 11 Aug 1950.
25X1A2g
13. [redacted] 15 Feb 1951.
14. FBIS, HH3, op. cit.
15. FBIS 230, p. HH-1, 27 Nov 1950.

25X1X7

D. Petroleum.

25X1A

1. [redacted]
2. R-814-50, CIA 489678, 29 Jun 1950, G-2 USFA and others.
3. R-5-48, CIA 150270, OMA Hungary, 6 Jan 1948; [redacted]
4. Estimated on the basis of R-5-48, op. cit.
5. IR-98-49, 11 Jun 1949; IR-101-49, 16 Jun 1949; IR-105-49, AA Budapest, 21 Jun 1949.
6. R-42-51, OMA, Hungary, CIA 577910, 12 Feb 1951.
7. State Desp 151, Budapest, CIA 501664, 9 Jun 1950.
8. Information Report IAD-A-75, Budapest, CIA 390193, 19 Jan 1950.
9. State Desp 60, Budapest, CIA 399368, 21 Jan 1950.

[redacted]

E. Electric Power.

1. SID Rumania, [redacted] 25X1A2g
25X1A2g 2. [redacted] 7 Jan 1951.
3. [redacted] Oct 1947.

F. Chemicals.

1. Synthetic Ammonia.

1a. FDD-SDS 2511 of Feb 1942.
1b. OMA, Hungary, Rpt R-314-48, 25 Jun 1948, Info Aug 1947, CIA 222813.
2. Op. cit. Source 1a/.
3. Op. cit. Source 1b/.
4. AmLeg, Budapest, Hungary, D 312 of 27 Apr 1949, CIA 309387.
5. Op. cit. Source 1a/.
6. Ibid.
7. Ibid.
8. Ibid.
9. Ibid.
10. AmLeg, Budapest, Hungary, D. 46 of 6 May 1949, CIA 314291; op. cit. Source 5/.
25X1A2g 11. [redacted] of 28 Feb 1951, Info Oct 1950.
12. [redacted] of 21 Dec 1950, Info 27 Sep 1950.
13. [redacted] of 28 Feb 1950, Info 21 Dec 1949.

2. Sulphur and Pyrites.

1. Foreign Commerce Weekly, 20 Sep 1947.
2. Mineral Trade Notes, Jan 1947.
3. State Desp 153, Budapest, 19 Aug 1949.
4. G-2 Rpt, ID 568548; CIA 329293.
5. From official expert statistics of Italy and US: Mineral Trade Notes, Jun 1948; [redacted] 25X1A2g
FDD Rpt 22, 22 Mar 1950.
25X1X7 6. [redacted] CIA 416197, 1 Mar 1950.
7. Calculated from Hungarian production of rayon as given in Rayon Organon.
8. Chemische Industrie (Karlsruhe), p. 365, Jul 1950; G-2 Rpt, Info Jul 1949.
9. Ibid.
25X1A2g 10. [redacted] 16 Aug 1950.
11. Army, Staff Comm. Off., Tr. 373, 1 Apr 1950; [redacted] 25X1A2g
12. Ibid.
25X1A2g 13. [redacted] Info Jan 1950.
14. [redacted] 24 Jan 1950.

[redacted]

3. Rubber.

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